DOCUMENT RESUME

ED 321 235 CS 010 151

AUTHOR Weintraub, Sam, Ed.
TITLE Annual Summary of Investigations Relating to Reading, July 1, 1988 to June 30, 1989.
INSTITUTION International Reading Association, Newark, Del.
PUB DATE 90
NOTE 274p.; For previous year's research, see ED 308 487.
AVAILABLE FROM International Reading Association, 800 Barksdale Rd., P.O. Box 8139, Newark, DE 19714-8139 (Book No. 357, $15.00 member, $23.00 nonmember).
PUB TYPE Reference Materials - Bibliographies (131)

EDRS PRICE MF01/PC11 Plus Postage.
DESCRIPTORS Annotated Bibliographies; Content Analysis; Elementary Secondary Education; Higher Education; Reading Comprehension; *Reading Difficulties; *Reading Instruction; *Reading Research; Reading Tests; *Teacher Education

ABSTRACT

Summarizing approximately 800 reports of reading research identified between July 1, 1988 and June 30, 1989, this book categorizes the research studies into six major areas, five of which have been further subcategorized, with the majority of studies classified into the physiology and psychology of reading area. The major areas are as follows: (1) summaries of reading research (a listing of other general bibliographies of reading research); (2) teacher preparation and practice; (3) sociology of reading (the largest subcategory here is concerned with the content analysis of printed materials); (4) physiology and psychology of reading (large subdivisions are comprehension research and factors related to reading disability); (5) the teaching of reading; and (6) reading of atypical learners. A list of journals monitored for the summary and an author index conclude the book. (SR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED321235

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
L.W. KLINE
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Summary of Investigations Relating to Reading

July 1, 1988
to
June 30, 1989

Sam Weintraub
Editor

2

BEST COPY AVAILABLE

Annual Summary of Investigations Relating to Reading July 1, 1988 to June 30, 1989

Sam Weintraub
State University of New York at Buffalo
Editor

CS010151

INTERNATIONAL READING ASSOCIATION
800 Barksdale Road, PO Box 8139
Newark, Delaware 19714, USA

IRA BOARD OF DIRECTORS

Carl Braun, University of Calgary, Calgary, Alberta, Canada, *President* • Judith N. Thelen, Frostburg State University, Frostburg, Maryland, *Vice President* • Marie M. Clay, University of Auckland, Auckland, New Zealand, *Vice President Elect* • Joan F. Curry, San Diego State University, San Diego, California • Vincent Greaney, St. Patrick's College, Dublin, Ireland • Dolores B. Malcolm, St. Louis Public Schools, St. Louis, Missouri • Mary D. Marockie, Regional Education Service Agency VI, Wheeling, West Virginia • Ann McCallum, Fairfax County Public Schools, Annandale, Virginia • Joy N. Monahan, Orange County Public Schools, Orlando, Florida • John J. Pikulski, University of Delaware, Newark, Delaware • Kathryn Ann Ransom, Springfield Public Schools, Springfield, Illinois • Richard T. Vacca, Kent State University, Kent, Ohio • Robert G. Jones, Acting Executive Director

IRA PUBLICATIONS COMMITTEE 1990-1991 Donna Ogle, National College of Education, *Chair* • Irene West Gaskins, Benchmark School, Media, Pennsylvania • M. Jean Greenlaw, University of North Texas • Robert G. Jones, IRA • Edward J. Kameenui, University of Oregon • Adria F. Klein, California State College • Ann McCallum, Fairfax County Public Schools, Annandale, Virginia • Anne McCourt-Lewis, University of Delaware • John T. Ridley, Houghton Mifflin Company • Timothy Shanahan, University of Illinois at Chicago Circle • Jon Shapiro, University of British Columbia • Dixie Lee Spiegel, University of North Carolina • Jennifer A. Stevenson, IRA • Barbara R. E. Swaby, University of Colorado at Colorado Springs

The International Reading Association attempts, through its publications, to provide a forum for a wide spectrum of opinions on reading. This policy permits divergent viewpoints without assuming the endorsement of the Association.

A microfiche edition of this *Annual Summary of Investigations Relating to Reading* is available. Annotated citations are provided in author and subject sequences on eye-readable, 4 x 6 cards; the full-text documents are reproduced on 4 x 6 high-quality microfiche which utilizes an exclusive image indexer. Printed author and subject indexes are included, and a demonstration workshop is available to train staff and students in the use of the collection. For further information about the microfiche edition of this *Annual Summary* or any previous *Summary*, contact the Alvina Treut Burrows Institute, PO Box 49, Manhasset, NY 11030. Phone 516-869-8457.

Copyright 1990 by the
International Reading Association, Inc.
ISSN 0197-5129

Cover design by Boni Nash

Annual Summary of Investigations Relating to Reading July 1, 1988 to June 30, 1989

I. *Summaries of reading research* 2

II. *Teacher preparation and practice*
- II-1 Behavior, performance, knowledge, practices, effectiveness 2
- II-2 Beliefs/attitudes toward reading 5
- II-3 Preservice/inservice preparation 7
- II-4 Roles 10
- II-5 Evaluation of programs and materials 11
- II-6 Reading habits 12

III. *Sociology of reading*
- III-1 Role and use of mass media 12
- III-2 Content analysis of printed sources 15
- III-3 Readability 24
- III-4 Reading interests, preferences, habits 25
- III-5 Readership 26
- III-6 Library usage 29
- III-7 Literacy 29
- III-8 History of reading instruction 33
- III-9 History of newspapers 34
- III-10 Newspaper publication 36
- III-11 History of magazines 38
- III-12 Magazine publication 38
- III-13 Publication and history of juvenile literature 39
- III-14 Censorship and freedom of the press 41
- III-15 Effects of reading 42
- III-16 Reaction to printed materials 43
- III-17 Research techniques 44

IV. *Physiology of and psychology of reading*
- IV-1 Physiology of reading 45
- IV-2 Sex differences 51
- IV-3 Intellectual abilities and reading 52
- IV-4 Modes of learning 56
- IV-5 Experiments in learning 61
- IV-6 Auditory perception 75
- IV-7 Visual perception 75
- IV-8 Reading and language abilities 80
- IV-9 Vocabulary and word identification 87
- IV-10 Factors in interpretation 97
- IV-11 Oral reading 99
- IV-12 Rate of reading 104
- IV-13 Other factors related to reading 104
- IV-14 Factors related to reading disability 108

IV-15 Sociocultural factors and reading 123
IV-16 Reading interests 126
IV-17 Attitudes and affect toward reading 129
IV-18 Personality, self-concept, and reading 133
IV-19 Readability and legibility 135
IV-20 Literacy acquisition 140
IV-21 Studies on the reading process 149
IV-22 Comprehension research 156
IV-23 Research design 174

V. *The teaching of reading*
V-1 Comparative studies 175
V-2 Status of reading instruction 177
V-3 Early reading 179
V-4 Readiness 181
V-5 Teaching reading – primary grades 182
V-6 Teaching reading – grades 4 to 8 187
V-7 Teaching reading – high school 192
V-8 Teaching reading – college and adult 193
V-9 Instructional materials 196
V-10 Teaching – grouping/school organization 203
V-11 Corrective/remedial instruction 205
V-12 Teaching bilingual/other language learners 214
V-13 Tests and testing 216
V-13a Factors in test performance 216
V-13b Predictive studies 218
V-13c Cloze testing 221
V-13d Test uses and purposes 222
V-13e Test reliability and validity 223
V-14 Instructional time 226
V-15 Technology and reading instruction 227
V-16 Characteristics of effective reading 232
V-17 Role and effects of instructional research 233

VI. *Reading of atypical learners*
VI-1 Visually impaired 234
VI-2 Hearing impaired 235
VI-3 Mentally retarded 239
VI-4 Neurologically impaired/brain damaged 242
VI-5 Other atypical learners 246

List of journals monitored 249

Author index 253

Abbreviations Used in the Annual Summary, 1988-1989

Abbreviations have been used with certain terms and test names that appear frequently in reading research reports. The terms, test names, and abbreviations employed are listed below.

TERMS

ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
CA	Chronological Age
CAI	Computer Assisted Instruction
CRT	Cathode Ray Tube
ESL	English as a Second Language
GPA	Grade Point Average
IQ	Intelligence Quotient
LD	Learning Disabled
LVF	Left Visual field
MA	Mental Age
MANOVA	Multivariate Analysis of Variance
RA	Reading Age
RD	Reading Disabled
RMI	Reading Miscue Inventory
RT	Reaction Time
RVF	Right Visual Field
SES	Socioeconomic Status
VF	Visual Field

TESTS

ACT	American College Test
CAT	California Achievement Test
CTBS	Comprehensive Tests of Basic Skills
DRP	Degrees of Reading Power
GMRT	Gates-MacGinitie Reading Tests
GORT	Gray Oral Reading Test
ITBS	Iowa Test of Basic Skills
ITPA	Illinois Test of Psycholinguistic Abilities
MAT	Metropolitan Achievement Tests
MRT	Metropolitan Readiness Test
NARA	Neale Analysis of Reading Abilities
NDRT	Nelson-Denny Reading Test
PIAT	Peabody Individual Achievement Test
PMAT	Primary Mental Abilities Test
PPVT	Peabody Picture Vocabulary Test
RPM	Raven's Progressive Matrices
SAT	Stanford Achievement Tests
Schonell	Schonell Graded Word Reading Test
SDRT	Stanford Diagnostic Reading Test
SIT	Slosson Intelligence Test
Spache DRS	Spache Diagnostic Reading Scales
SRA	SRA Achievement Series
TORC	Test of Reading Comprehension
WAIS-R	Wechsler Adult Intelligence Scale-Revised
WISC-R	Wechsler Intelligence Scale for Children-Revised
WJPEB	Woodcock-Johnson Psycho-Educational Battery
WPPSI	Wechsler Preschool and Primary Scale of Intelligence
WRAT	Wide Range Achievement Test

Contributing Authors

SAM WEINTRAUB is a professor in the Faculty of Educational Studies, State University of New York at Buffalo. He has served on the faculties of several universities including the University of Chicago and Indiana University. Dr. Weintraub can be contacted at 593 Baldy Hall, SUNY at Buffalo, Amherst, NY 14260.

HELEN K. SMITH is professor emeritus at the University of Miami at Coral Gables where she was chair of The Graduate Area in Reading. Formerly, she served on the faculties of the University of Chicago, where she directed the Reading Clinic, and the University of Illinois at Chicago Circle. She has been a high school teacher of reading and English, a reading consultant, and a research assistant. She has served on IRA's Board of Directors and has contributed to various professional journals. She is a member of the Reading Hall of Fame. Dr. Smith can be contacted at Box 236, Heyworth, IL 61745.

NANCY L. ROSER is a professor of curriculum and instruction at the University of Texas at Austin. She teaches courses in reading methods and in recent research on reading and is the author of numerous articles and texts. Dr. Roser can be contacted at the College of Education, Department of Curriculum and Instruction, Education Building 406, University of Texas, Austin, TX 78712.

WALTER J. MOORE is professor emeritus at the University of Illinois at Urbana-Champaign. He has taught in the public schools as well as in the Laboratory School at the University of Chicago where he also served as the research assistant on the annual summary under William S. Gray. Dr. Moore has been a frequent contributor to various professional journals, has coauthored professional texts, and has authored chapters in several publications. Dr. Moore can be contacted at the College of Education, University of Illinois at Urbana-Champaign, Urbana, IL 61801.

KATHLEEN S. JONGSMA is a reading specialist for the Northside Independent School District in San Antonio, Texas. She has served on the faculties of the University of Texas at San Antonio, Southwest Texas State University, Texas Woman's University, and the University of New Orleans. Dr. Jongsma can be contacted at the Northside Independent School District, 5900 Evers Road, San Antonio, TX 78238.

EUGENE A. JONGSMA is a Senior Project Director at the Psychological Corporation in San Antonio, Texas. He has served on the faculties of the University of Texas at San Antonio, Southern Methodist University, and the University of New Orleans. Dr. Jongsma can be contacted at the Psychological Corporation, 555 Academic Court, San Antonio, TX 78204.

MARY ANNE E. DOYLE is an Associate Professor of Education and Director of the Reading-Language Arts Center at the University of Connecticut. She teaches courses in developmental reading, diagnosis and remedial reading, and reading research. Her recent research projects include schoolwide program evaluations of language arts instruction. She can be contacted at the School of Education, Box U-33, 249 Glenbrook Road, University of Connecticut, Storrs, CT 06268.

*Annual Summary of Investigations Relating to Reading July 1, 1988 to June 30, 1989**

SUMMARIZES approximately 800 reports of reading research identified between July 1, 1988, and June 30, 1989. The research studies are categorized into six major areas, five of which have been further subcategorized. As in previous years, the majority of studies reported were classified into the Physiology and Psychology of Reading area. The largest subdivisions within that category continue to be Comprehension Research and Factors Related to Reading Disability. The largest subcategory in the Sociology of Reading is concerned with the content analysis of printed materials. Under the Teaching of Reading category, the testing subcategory remains the largest. A listing of other general bibliographies of reading research appears as the first major category of the present summary.

*Ellen Friedland and Diane Graham are the conscientious and competent doctoral students responsible for identifying the materials for inclusion. Margaret Collins is the efficient secretary who keeps track of all the summary materials and reminds me that it's time to get things done. To those individuals, I am deeply indebted. In addition, thanks are due to our responsible, conscientious work-study students, Crystal Huston and Jae Oh. Primary financial support of the annual summary is provided by the International Reading Association. Supplementary funding is supplied by the Alvina Treut Burrows Institute.

I. Summaries of reading research

DURST, RUSSEL K., & MARSHALL, JAMES D. Annotated bibliography of research in the teaching of English. *Research in the Teaching of English*, December 1988, *22*, 434-452.

Annotates research in the teaching of English under four main headings: (1) Writing, (2) Language, (3) Literature, and (4) Teacher Education. Sources listed include journal articles, dissertations, ERIC documents, papers, and books.

GOODACRE, ELIZABETH J., & BENTLEY, DIANA. *British Register of Reading Research* No. 13. Reading, Berkshire: University of Reading School of Education, Summer 1988.

Lists and abstracts reading research in Great Britain. Included also is a listing of ongoing research.

MARSHALL, JAMES D., & DURST, RUSSELL K. Annotated bibliography of research in the teaching of English. *Research in the Teaching of English*, May 1989, *23*, 208-222.

Continues the compilation of an annotated bibliography on research in the teaching of English. The same four major subdivisions appear as in previous bibliographies under this title.

WEINTRAUB, SAM; SMITH, HELEN K.; ROSER, NANCY L.; MOORE, WALTER J.; JONGSMA, KATHLEEN S.; JONGSMA, EUGENE A.; & FISHER, PETER J.L. IN SAM WEINTRAUB (Ed.), *Summary of Investigations Relating to Reading, July 1, 1987 to June 30, 1988.* Newark, DE: International Reading Association, 1989.

Identifies and abstracts approximately 900 published research reports in reading. The literature is categorized under 6 major categories. Five of the categories are further subcategorized.

II. Teacher preparation and practice

II-1 Behavior, performance, knowledge, practices, effectiveness

SHANNON, PATRICK. Class size, reading instruction, and commercial materials. *Reading Research and Instruction*, Spring 1989, *28*, 18-29.

Conducts an observational study of 20 primary grade teachers and 40 pupils to determine if reduced class size changed organizational and instructional procedures. Class size ranged from 13 to 20 pupils. Two observers visited the 10 schools involved for a total of 40 hours of classroom observation. At three-minute intervals, specific actions of teachers and two pupils were noted. In addition to the observational data, questionnaire data were collected from the teachers and their 10 principals, and informal interviews were held with five teachers and three principals. Eighteen of the teachers relied upon commercial reading materials in the traditional way; i.e., 90% of the teachers used commercial materials all or most of the time. Some 83% of teachers' time was spent talking about, explaining, or monitoring pupils' use of commercial reading materials. Pupil time was accounted for in the following manner: (1) 6% in learning centers, (2) 1% in writing more than one sentence, (3) 70% with workbooks and worksheets, (4) 10% in reading books outside the reading group, and (5) 13% in reading group.

FARR, ROGER; TULLEY, MICHAEL A.; & RAYFORD, LAWRENCE. Selecting basal readers: A comparison of school districts in adoption and nonadoption states. *Journal of Research and Development in Education*, Summer 1987, *20*(4), 59-72.

Compares the reading textbook adoption procedures and outcomes between school districts in adoption and nonadoption states. More specifically, the study sought to determine if differences existed between the 20 adoption states and 28 nonadoption states in (1) the price paid for reading textbooks, (2) the frequency with which new books are selected, (3) the recency of copyright dates, and (4) the actual reading series used. Data were collected through an examination of textbook adoption statutes, interviews with state level administrators, and questionnaire surveys of randomly selected districts. The results found only minimal differences between adoption and nonadoption states. On average, nonadoption states paid about $1.00 more per fourth-grade textbook, but practices varied widely. No significant differences were found between adoption and nonadoption states on the other three research questions.

SMITH-BURKE, M. TRIKA. Classroom practices and classroom interaction during reading instruction: What's going on? In James R. Squire (Ed.) *The Dynamics of Language Learning*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills, 1987, 226-265.

Discusses research on classroom practices and interactions during reading instruction by reviewing exemplary research in three distinct areas: (1) teaching and management characteristics which promote achievement in reading; (2) comprehension instruction and observed realities of reading instruction during classroom lessons; and (3) interaction in traditional classrooms, interaction in nontraditional classrooms, and home/school and cultural differences in interaction. Suggestions for future research and/or development in the areas of language, learning, research methodology, and curriculum were also detailed.

LAINE, CHESTER. Reading and writing skills of prospective teachers. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 53-55.

Investigates the reading and writing skills of pre-service teachers. Junior-level education majors (n=63) were administered a criterion referenced reading test and wrote an essay related to the passage used in the test. A sub-sample (n=29) also completed the *Test of Standard Written English* (TSWE). Essays were graded holistically by nine raters. Students' comprehension scores were considered reasonably high, with inferential comprehension the strongest subskill. On the basis of the essay, 23 subjects needed intensive review of writing fundamentals, and 10 needed remediation and counseling. The average score on the TSWE was at the 56th percentile.

LOVELACE, TERRY; COLLINS, MARTHA; & DESANTI, ROGER. Predicting and evaluating student teachers' performance in reading instruction. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 59-61.

Examines the relation between pre-service teachers' performance on the National Teacher Examinations (NTE), and their actual classroom performance. Student teachers (10 elementary majors and 10 secondary majors) were randomly selected from a population of 76 seniors. Each teacher was observed three times for two hours, and their classroom performance evaluated in relation to teaching plans and materials, classroom procedures, and interpersonal skills. One trained observer viewed all subjects using the Teacher Performance

Assessment Instruments (TPAI), which were developed in previous research. Cumulative grade point average, and scores from the ACT were also used in the analysis. There were statistically significant correlation coefficients between GPA and performance on the Communication Skills ($r = .89$; $p < .01$), Area Examination ($r = .66$; $p < .03$), and Professional Knowledge ($r = .77$; $p < .01$) subtests on the NTE. Classroom performance was not highly related with performance on the NTE, with the highest correlation coefficient being .60 between the NTE Area Examination and the TPAI Interpersonal Skills subtest.

BLYTHE, HAL T., & CARTER, SYLVIA MCCOY. A study to determine the capability of teachers and to predict the reading interest of pupils. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 46-47.

Investigates factors which affect teachers' ability to predict the reading interests of their pupils. Elementary school teachers ($n = 83$) selected three from eight literary categories which they thought two of their pupils (one boy, one girl) would also choose. A matching score between the teachers' and the pupils' selections was calculated. There were no differences in matching scores for boys and girls, nor in such factors as teaching experience, the number of reading courses completed, or grade level taught. Teachers who used interest inventories with their pupils were more accurate in predicting pupils' reading interests than teachers who did not ($p < .05$).

MCCABE, PATRICK P., & MARGOLIS, HOWARD. Continued use of norm referenced tests to place students in reading materials. *Journal of Reading, Writing, and Learning Disabilities,* 1988, *4*(2), 107-114.

Surveys rural and suburban elementary teachers for two purposes: (a) to determine the extent to which they use the results of standardized reading tests (e.g., normed grade equivalent scores) to place students in basal readers, and (b) to identify teachers' knowledge of the appropriateness of using grade equivalent scores for placement purposes. Participants included 65 experienced teachers who volunteered to complete a questionnaire of student placement procedures and beliefs. Teachers were secured from six schools in six districts: three located in suburbs of New York City, and three in rural Idaho. With a response rate of 53%, the study included 37 suburban teachers and 28 rural teachers. Because ANOVA comparisons of suburban and rural teachers' responses on all content items revealed no significant differences, survey results were reported for the combined suburban-rural group. Teachers indicated that they relied heavily on group (60%) and individual (63%) standardized tests and normed grade equivalent scores to place pupils in basal readers. In response to items regarding beliefs, 11% indicated the use of group reading tests to be ideal, while 25% preferred individually administered standardized reading tests. Fifty-eight percent indicated value in using IRI's. In contrast to testing, 7% believed it ideal to automatically continue with the next book in the series; however, none believed in placing children automatically in books designated for their grade, e.g., placing all third graders in the third grade book.

HINCHMAN, KATHLEEN. The textbook and three content-area teachers. *Reading Research and Instruction,* Summer 1987, *26,* 247-263.

Explores the use of textbooks by three content-area high school teachers. One teacher taught social studies, another science, and the third English. Qualitative data-gathering techniques associated with symbolic interactionism and comparative analysis, such as participant-observation field notes and extensive interviews, were used. Data were collected over three school years. Observations were classified into two major categories—observed use of textbooks, and teachers' explanations of textbook use. The uses of textbooks varied among the three teachers. One used an approach that reflected methodical coverage of curriculum with

emphasis on text-based, factual information useful for passing tests. A second used greater variety in texts and encouraged high levels of understanding. The third teacher emphasized high level interpretation rather than content. All three teachers used the text as an information source for themselves and for students and as a basis for classroom activities.

BIRAIMAH, KAREN. Learning to read in the third world: The process and outcomes of gender bias in elementary schools. *Journal of Reading Education*, Spring 1989, *14*(3), 20-29.

Discusses the patterns of gender differentiation observed in level two and level six reading classes in one university supported elementary school in western Nigeria, and explores whether grade level or gender tends to affect performance in reading. Pupils' end-of-term final grades, assigned by teachers, were used as the reading achievement measure. The study included 81 level two pupils (39 girls, 42 boys) and 74 level six pupils (36 girls, 38 boys). Twenty four hours of classroom observations, conducted over a four month period, were divided equally between regularly scheduled level two and level six reading classes. Observations focused on the frequency and type of classroom interaction by pupil gender. To analyze the observational data, interactions were assigned to one of three categories (Academic Interaction, Positive Academic Reinforcement, and Negative Academic Reinforcement) and percentages were determined. In general, reading classes were described as teacher-centered, harsh, and austere. In total, only about half of the children present (57%) participated in academic interactions and only 42% of all children received any teacher reinforcement, either positive or negative. For level two classes, gender bias was not apparent, as equal amounts of academic interactions and teacher feedback were observed for boys and girls. There were no apparent differences in reading performance; final grade averages for girls and boys were comparable. At the sixth level, a percentage difference in the amount of academic interactions, 59% for girls and 74% for boys, was considered indicative of gender differentiation favoring male pupils. However, no differences in academic performance, final grade averages, were apparent between genders at this level.

II-2 Beliefs/attitudes toward reading

BENTON, SIDNEY, E., & JERROLDS, BOB. The relationship of graduate education students' achievement in educational research to their reading attitudes, attitudes toward educational research, GPAs and national teacher examinations. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 76-78.

Investigates the attitudes toward reading of graduate education students. Subjects ($n=80$), who were enrolled in an educational research class, were administered two scales. One instrument assessed attitudes toward reading using a 26-item Likert-type scale; the other (Attitudes Toward Educational Research Scale – ATERS) consisted of a similar 50-item scale. Grade point average scores at the graduate and undergraduate level were available for most subjects, and scores from the National Teacher Examinations (NTE) for some subjects. Performance in the course was determined by two multiple-choice examinations. Teachers who were currently involved in the teaching of reading had higher reading attitude scores than those who were not ($p < .05$). Reading attitude was also related to achievement ($r=.36$, $p < .01$), ATERS scores ($r=.31$, $p < .01$), NTE scores ($r=.54$, $p < .01$), and graduate GPA ($r=.30$, $p < .05$). Reading attitude was not related to undergraduate GPA ($r=.09$).

GEE, THOMAS C.; OLSON, MARY; & FORESTER, NORA. A survey of content reading program development in U.S. schools. *Reading Research and Instruction*, Spring 1989, *28*, 30-44.

Provides results of a national survey of the extent to which the U.S. secondary schools have implemented programs which involve all content teachers in presenting techniques for learning content by reading and to discover factors which encourage or hinder development of such programs. A 17-item questionnaire of teachers' impressions of existing secondary programs was sent to a sample of 1,124 persons selected randomly from those who subscribed to the *Journal of Reading* and balanced by regions of the nation. Of these, 466 (41%) surveys were returned. Eighty percent of the participating sample was middle or secondary teachers, 20% was elementary and/or primary grade teachers. Percentages of alternative responses were determined and examined to identify perceptions and trends. A strong majority of teachers (84%) believed content reading programs would improve teaching and learning in their schools. However, the data indicated that approximately 63% of U.S. schools had not considered developing such programs. A number of conditions seemed to be associated with schools that had successfully implemented such programs, including beliefs that all teachers share responsibility for guiding students' reading-to-learn skills, strong and supportive administrators, effective inservice education, time for collaborative planning, effective personnel to coordinate the program, beliefs that such programs are needed and will be helpful, and budgets to support time for teachers to plan and participate in inservice education. The absence of these same factors was suggested as the reasons why other schools had not established content reading programs.

ORLANDO, VINCENT P. Effects of a content area reading class on attitudes and practices of secondary teachers. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 32-34.

Investigates the attitudes to content area of content area teachers in middle through senior high school. A questionnaire was received by 235 former preservice students who had taken a content area reading class at a large four-year college and was returned by 105. The questionnaire consisted of 30 items making up four subscales relating to issues in content area reading, perceived benefits of the content area reading strategies, and the significance of content area reading strategies. Subjects were designated as part of one of three groups based on the amount of reading expected in a typical class: English or social studies (ESS), science or math (SM), and physical education, music, or art (PMA). The ESS group scored higher than the others on the Issues scale ($p = .02$), the Use scale ($p = .01$), and the Significance scale ($p = .02$). The SM group also scored higher than the PMA group on the Issues scale and the Use scale (both $p < .05$). On the Use scale teachers who had taught three years or less scored higher than more experienced teachers ($p = .05$). No other differences were statistically significant.

STEWART, ROGER A., & O'BRIEN, DAVID G. Resistance to content area reading: A focus on preservice teachers. *Journal of Reading,* February 1989, *32,* 396-401.

Surveys the prior knowledge and attitudes of preservice middle and secondary education majors toward content reading. For three consecutive semesters, students enrolled in a required content area reading course completed open-ended questions asking them why they thought the state required the course and what they hoped to learn in the course. An analysis of the responses yielded four categories. The largest percentage of responses, 39%, fell into "Personal Remediation"—the expectation that the course would improve their own personal reading abilities. "Student Diagnosis and Remediation," the expectation of a skills-driven approach to diagnosis and remediation, accounted for 34% of the responses. Only 23% fell into the "Right-on-Target" category, reflecting a high degree of prior knowledge and a general notion of learning from text. A total of 4% of the responses were classified as "No Idea," an absence of what to expect. Samples of the misconceptions were presented and suggestions made for explaining the function and purpose of content reading to preservice teachers.

GILLESPIE, CINDY, & RASINSKI, TIMOTHY. Content area teachers' attitudes and practices toward reading in the content areas: A review. *Reading Research and Instruction*, Spring 1989, *28*, 45-67.

Presents a review of the research related to content area teachers' attitudes toward teaching reading in the content areas. Four major findings suggested by the review were: (1) content area teachers were not well informed about either reading in general or about reading skills specific to their content areas; (2) their attitudes toward reading instruction varied with respect to instructional level, level of knowledge of reading, and content area taught; (3) teachers were willing to enroll in content area courses; and (4) such course work generally resulted in positive attitudes and a willingness to employ the content area reading techniques introduced.

ABRAHAM, JOHN. Teacher ideology and sex roles in curriculum texts. *British Journal of Sociology of Education*, 1989, *10*(1), 33-51.

Examines the relation between teachers' general beliefs about sexism in society with their views on sexism in general curriculum materials and those in actual use. Research techniques used were classroom and staffroom observation, content analysis of textbooks, and teacher interviews. Textual analysis included the number of males and females and the activities in which they were engaged. The mathematics and French textbooks and some of the English ones were male dominated and presented stereotyped activities. A sample of eight English, mathematics, and French teachers from one school in Great Britain were interviewed. From these interviews teachers' views on general sex roles and on sex roles in textbooks and curriculum materials and their strength of commitment in each case were ranked. It was concluded that teachers' ideological perspectives on sex roles influenced the selection of texts and their attitudes towards designing or introducing in their classes nonsexist or antisexist curriculum materials.

II-3 Preservice/inservice preparation

FLIPPO, RONA F., & HAYES, DAVID A. Preparation in reading and educator certification: Requirements, needs, issues. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 27-29.

Investigates qualifications related to reading required by each of the 50 states for teachers and other types of certification in education. Questionnaires were sent to the teacher certification office in each state requesting information concerning the amount of course work required for certification as an elementary teacher, secondary teacher, reading specialist, administrator/supervisor, and a number of specialized roles in education. For elementary teachers, the equivalent of two or more courses is required in 24 states, one course in 17 states, with 9 states leaving it to the training institution. For secondary teachers, 23 states require the equivalent of one course, 10 states two courses, 9 states no courses, and 9 states were vague about the requirements. Other results are reported in less detail.

DAISEY, PEGGY; DEERING, ROSEMARIE; & HEERMAN, CHARLES E. Teacher literacy in Kansas. *Kansas Journal of Reading*, Spring 1989, *5*, 8-13.

Summarizes the standards of performance on the *Pre-Professional Skills Tests* (PPST) required for both admission to teacher preparation programs and teacher certification in the state of Kansas and compares these requirements to those of 13 other states using the same assessment instrument. The PPST certification standard is the lowest of the standards set in the 13 participating states; the standard for program admission at Kansas state colleges is

about midway between the Kansas certification standard and the highest cut-off scores for the PPST nationwide. It was noted that the discrepancy between standards for admission to teacher education programs and the state requirement for certification needed must be addressed. To upgrade the reading, mathematics, and writing skills of Kansas teachers, and to ensure that teachers educated from outside the state or at private institutions have adequate literacy, a higher standard for certification was recommended.

ALVERMANN, DONNA E., & SMITH, LYNN C. How reading field experience students view the observation/evaluation process. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 26-27.

Examines preservice teachers' perceptions of the role of the university supervisor, and the value of reading education courses. Subjects (n=119), who were Early Childhood Education majors, completed questionnaires concerning the roles of university supervisors and cooperating teachers, and also concerning the value of field experience courses in developmental reading and corrective reading. Field experience students had positive views of university supervisors as evaluators, motivators, and constructive critics. Student teachers most frequently cited familiarity with the basal, general classroom diagnosis, and the use of simulated activities as the major components of the reading education courses which were of value.

WEDMAN, JUDY M., & ROBINSON, RICHARD. A survey of diagnostic/corrective reading instruction and practices in relation to the interactive reading process. *Reading Horizons,* Spring 1989, *29,* 167-175.

Delineates results of surveys administered to reading faculty in teacher training institutions and inservice teachers regarding currently taught or practiced diagnostic and corrective procedures and recommended areas of change. Two questionnaires were developed: one for use with university faculty and one for completion by practitioners, both reading and classroom teachers. Thirty-five university faculty who taught diagnosis and correction courses and represented a nationwide sampling were surveyed. Of these, 17 responded and were included in the analysis. Seventy teachers, who had received training from various teacher training institutions located throughout the U.S., were selected randomly from the population of teachers in three mid-sized, midwestern public school districts. Forty-five returned surveys and were included in this study. Analysis of the survey instruments was completed by two raters. Procedures included identifying thought units, organizing categories which emerged from the thought units, and computing frequencies. In all, 504 thought units were identified. Responses indicated that university courses and practices focused primarily on identifying and remediating deficit reading skills within the reader. Both university and inservice teachers indicated use of informal and standardized assessment and corrective measures consistent with identifying patterns of error. Inservice teachers identified observation as a frequently used diagnostic procedure, but reading faculty did not include observation as a coursework component. Reading faculty identified some interactive procedures as coursework components which inservice teachers did not include in practice descriptions. It was recommended that efforts to change will require increased communication, rethinking ideals and values, revising the content of coursework, inservice programs for practicing teachers, and increased funding.

STIEGLITZ, EZRA L., & OEHLKERS, WILLIAM J. Improving teacher discourse in a reading lesson. *Reading Teacher,* February 1989, *42,* 374-379.

Evaluates the effectiveness of an inservice program using self-directed materials based on the Directed Reading-Thinking Activity (DRTA). Twelve teachers, unfamiliar with

the DRTA, were given a 15-minute inservice session on its use. They were then asked to teach five fairy tales to their pupils who were in grades 3-5. Following this, teachers were given another fairy tale to teach with no instruction as to how to teach it and were asked to audiotape their talk portion of this lesson. Prior to the inservice, they had audiotaped another instructional session with a fairy tale. Data from the final and initial audiotapes were analyzed for 11 different areas. Of these, five showed significant change: background information, pupils' previous experiences, literal comprehension, interpretive comprehension, and documentation. Analysis of a questionnaire on reactions to the DRTA revealed positive attitudes towards its use.

CORLETT, DONNA JEAN. Experiences in reading instruction as the road to teaching reading. *Reading Improvement,* Winter 1988, *25,* 313-318.

Examines the effects of a self-improvement course in reading on the reading proficiency and instructional planning of participating teachers. Subjects included 23 experienced teachers who volunteered to complete a four week summer program of 14 sessions, two hours and 15 minutes each. Objectives for teachers were self-improvement of reading skills and development of a unit incorporating instructional procedures that had been modeled in the training program. *The Library Orientation Test for College Freshmen* and the *Brown-Holtzman Survey of Study Habits and Attitudes* were administered as self-assessment measures prior to training. Training included speed reading, vocabulary and comprehension instruction, study skills, library/reference skills, paragraph structure, outlining, note taking, and sharing of leisure reading. Effects of training were examined on a pre-post administration of the NDRT. Teachers were also required to complete one teaching unit incorporating the various reading instruction strategies. Analysis of NDRT results indicated significant growth in reading performance. Transfer of strategies to unit plans was reported; verification through follow-up classroom observations was not possible.

WEDMAN, JUDY M., & ROBINSON, RICHARD. Effects of a decision making model on preservice teachers' decision making practices and materials use. *Reading Improvement,* Summer 1988, *25,* 110-116.

Examines changes in preservice teachers' ability to analyze reading difficulties and prescribe alternative instructional plans using materials as a result of a three credit hour reading course. Participants were 27 juniors and seniors who had completed one reading course. A pre- and posttest assessed decision making with a four-problem scenario calling for written narrative responses. An additional posttest instrument assessed perceptions concerning the value of course activities in learning to make decisions about reading instruction and materials. Students' decision making practices and materials use were modified from pre- to posttest.

WISE, BETH, & SHAVER, JUDY. Effectiveness training for elementary teachers of reading. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 36-38.

Investigates the effectiveness of certain teacher training procedures on the enhancement of elementary pupils' reading achievement. Teachers (n=24) in second, third, fourth, and fifth grades were randomly assigned to experimental observed, experimental nonobserved, and control observed groups. Teachers in the experimental group received training in instructional processes which emphasized various aspects of classroom environment, introduction of the lesson, lesson presentation, questioning, and feedback. The control group received instruction on the interpretation of reading test performance. In the observed groups, observation was undertaken six times during reading instruction for each teacher over a nine week period. Pupils were pre- and posttested with the *Prescriptive Reading Inventory.* No

significant differences were found between treatment and control groups. Differences between teachers in terms of reading instruction behaviors were examined. Behaviors correlating positively with reading performance were "engaging students in learning," and "asking direct questions." Significant negative coefficients were noted with "asking rhetorical questions," and "giving nonacademic commands."

STAHL, NORMAN A.; GORDON, BELITA; & BROZO, WILLIAM G. The professional preparation of college reading and study skills specialists. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 47-50.

Reviews expert opinion from a variety of sources to determine the skills which a college reading specialist should possess. The review is divided into sections concerned with undergraduate training, instructional skills, measurement and research skills, administrative and counseling skills, and personal characteristics. The authors conclude that in each of these areas an agreed set of standards is needed.

BUSCH, ROBERT F. The use of videotaped tutoring sessions to improve student performance. *Reading Improvement,* Spring 1989, *26,* 24-32.

Examines the use of videotapes as a means to improve the teaching abilities of reading clinicians enrolled in a graduate practicum experience. Twenty-four videotaped recordings were made of four clinicians working with four clients in a summer tutoring program designed to remediate children's specific learning needs. Tutoring sessions were 30 minute periods, four days each week for six weeks. The children ranged in age from 7 to 11 years. Videotapes were analyzed according to the standards and procedures of an interaction analysis system which focuses on verbal interactions. Verbal interactions observed in five minute segments of videotape were categorized and percentages were determined. Results revealed that in three of four cases teacher talk dominated the sessions, and when children did talk, it was in response to a teacher initiated question. These findings were considered congruent with other reported findings. In one category, amount of reinforcement, the scores of the clinicians were well above those reported in a previous study. While the use of videotaping in the clinic setting proved to be a costly procedure and assessment was limited to verbal behavior, clinicians were able to identify their strengths and concerns.

ANDERSON, NANCY A., & GREABELL, LEON C. Inservice needs of reading paraprofessionals. *Journal of Reading Education,* Winter 1988-89, *14*(2), 19-28.

Surveys Chapter I reading paraprofessionals to determine their inservice interests. The sample of 277 paraprofessionals was employed by three school districts in Florida. The survey questionnaire, a list of 30 skills and competencies in teaching reading, was a modified version of an instrument designed for use with paraprofessionals and validated in a previous study. Subjects identified each skill they were interested in acquiring through inservice training and listed additional requests. Tabulated results indicated a ranking of needs in the following order of preference: (a) concerns regarding student; (b) concerns for instructional tasks; and (c) concerns for self. Findings suggested that inservice for paraprofessionals be expanded beyond the common focus on task/instructional concerns to concerns regarding characteristics and needs of students.

II-4 Roles

MORGAN, RAYMOND F.; MEEKS, JANE WARREN; & JONES, FRANKLIN ROSS. Toward evolving a profile of the "satisfied" reading professional: Concomitance and

implication. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 29-32.

Examines the influence of satisfaction with personal life and the job satisfaction of reading specialists. Structured questionnaires were sent to 61 female reading specialists with three or more years experience in their present job. From the 36 responses received, three subjects with reported high degree of work satisfaction and three with low work satisfaction were interviewed in depth. Mini-case studies are reported, from which it is concluded that: (1) personal satisfaction affected professional satisfaction; (2) professional satisfaction was generally higher than personal satisfaction; (3) there was a decline in personal satisfaction and sometimes professional satisfaction at age 30 due to emerging career decisions and re-evaluation of "relational others"; and (4) subjects viewed themselves as much in relation to "significant others" as in relation to career.

CASSIDY, JACK, & RICKELMAN, ROBERT J. The importance of specialists in reading? *Reading Instruction Journal*, Winter 1989, *32*(2), 3-7.

Reviews some of the research examining both the roles of reading specialists and their effectiveness on school reading programs. Results suggested there was no common agreement pertaining to the roles which reading specialists play within school districts. In regard to effectiveness, most of the literature suggested that trained reading specialists have a significant and positive influence on the school reading curriculum. The need for consensus in role definition was suggested; the guidelines of the International Reading Association were recommended. Continued evaluation of the effectiveness of reading specialists in a variety of roles was recommended.

II-5 Evaluation of programs and materials

VINCENT, DENIS; DE LA MARE, MICHAEL; & WILSON, LYN. Qualitative observation and standardized reading tests. *Educational Research*, February 1989, *31*, 3-9.

Surveys teachers' beliefs in Great Britain as to what qualitative behaviors should be observed in evaluating a student's oral reading. A questionnaire comprised of 41 observable behaviors was developed. The behaviors were taken from supplementary checklists for existing standardized tests and from recommendations in the professional literature and were classified into four categories: General Approach to Test, Word Attack, Comprehension Questions, and Miscellaneous. The questionnaire was distributed to 333 teachers; results were based on 200 responses. Teachers were asked to judge which behaviors should be included in an evaluation of students' oral reading. Overall results indicated the tendency for all the items to be included. A complete listing of all the behaviors with their mean and modal ratings was provided. Concern was raised as to the practical issues of collecting, organizing, and managing such an extensive set of observational data.

NICHOLSON, TOM. Using the CIPP model to improve reading and learning in the high school classroom. *New Zealand Journal of Educational Studies*, 1988, *23*(1), 87-99.

Discusses survey data resulting from the input evaluation phase of the CIPP model of program evaluation applied to secondary education in New Zealand. The objective of the input evaluation was to assess the extent of national consensus for change in the use of text material at the high school level and to identify feasible solutions for improvement. Both a questionnaire and follow-up interviews were used. The questionnaire was based on the content report resulting from phase one of the evaluation study and consisted of a series of statements rated on a 5-point scale indicating extent of agreement/disagreement. Questionnaires

were administered to a sample of 302 high school teachers selected from 36 schools throughout New Zealand and balanced in content area speciality, years of teaching experience, and experience in working with minority groups. Findings revealed consensus among participants: 93% agreed that changes were needed. A variety of feasible solutions were suggested and centered around extending teacher awareness of text-related difficulties, discussing problems with colleagues, allocating time to help students understand what they read, and applying instructional strategies designed to improve reading and comprehension.

II-6 Reading habits

MALLERY, ANNE L.; WALLACE, DEE; & DUPUIS, MARY M. Assessment of preservice teachers in six Pennsylvania colleges and universities. In George H. McNinch (Ed.) *Reading Teacher Education.* Fourth Yearbook of the American Reading Forum, 1984, 23-25.

Investigates whether differences exist in the reading levels, habits and attitudes of teacher candidate pools at large public universities, small public universities, and small private church-related colleges. Subjects (n=418), who were upperclassmen at six institutions (two of each type) in an eastern state, were administered the NDRT. Subjects (n=389) at five institutions also completed a survey of study habits and attitudes (SSHA). Comparisons were made between types of institutions, sexes, and elementary and secondary teacher education candidates. No differences were observed for reading level. Females scored higher than males ($p < .01$) on all sections of the SSHA, and elementary majors outscored secondary majors on most sections (significance levels not reported). Scores on the SSHA by institution are reported but not analyzed.

III. Sociology of reading

III-1 Role and use of mass media

MOORE, BARBARA A.; HOWARD, HERBERT H.; & JOHNSON, GEORGE C. TV news viewing and the decline of the afternoon newspaper. *Newspaper Research Journal,* Fall 1988, *10*(1), 15-23.

Asks if readership of afternoon newspapers is related to viewing evening newscasts in the top 50 markets. Nielsen ratings for the early evening local and network newscasts were compared with newspaper circulation figures. Four categories of cities were devised, based upon newspaper circulation: those with (1) no afternoon papers, (2) weak afternoon papers, (3) strong afternoon papers, and (4) all-day newspapers. Average evening local and network newscasts were calculated for each of the categories. The results indicated a tendency toward higher ratings for newscasts in markets with both strong and weak afternoon newspapers, but these differences were not statistically significant (t-test). Some significant variations were found between market size and location and the ratings for local and network newscasts.

O'KEEFE, GARRETT J., & REID-NASH, KATHALEEN. Crime news and real-world blues. *Communication Research,* April 1987, *14,* 147-163.

Investigates the impact of attention to television and newspaper crime news on public perceptions, attitudes, and behaviors pertaining to crime. The first series of interviews included personal interviews with 1,049 adults in three metropolitan areas in September 1979;

the second series in November 1981 was with 426 of the initial subjects. At each time they were asked how much time they spent watching television per day, how often they watched detective, police, or crime programs, how much attention they gave to them and to newspaper crime stories. Dependent measures included the subjects' orientations towards crime (their fear of crime, as an example), crime prevention orientations, and crime prevention behaviors. Greater attention to televised news was related to subsequent increased fear, concern, and avoidance activity. Now such effects were found for newspaper crime news attention, although greater concern about crime was related to subsequent increased readership.

ROSENBERG, WILLIAM L., & ELLIOTT, WILLIAM L. Comparison of media use by reports and public during newspaper strike. *Journalism Quarterly,* Spring 1989, *66,* 18-30, 136.

Examines the effects of a daily newspaper strike on the uses and gratifications of 54 reporters and 215 members of the general public. Interviews were conducted with these subjects to determine their media use, backgrounds, information sources, and gratifications sought from newspaper reading. Gratifications were determined by surveillance (gaining information about world events) and social contact (newspaper use to strengthen relations with other people and society). Statistical analyses used to compare the interviews of the two groups of subjects included hierarchical least-squares regression and linear regression. Reporters read more newspapers than the public before and during the strike. Reporters were more likely to use newspapers for surveillance, but differences were not clear for social contacts. Newspaper dependent individuals substituted another medium, usually another newspaper, to replace the local medium. Neither group showed a significant increase during the strike in readership of news magazines, local television news viewing, network television news, or radio news listening.

JEFFRES, LEO W.; DOBOS, JEAN; & LEE, JAE-WON. Media use and community ties. *Journalism Quarterly,* Fall 1988, *65,* 575-581, 677.

Focuses upon the relation of media use and community ties, emphasizing the neighborhood. Three surveys were administered, the first in 1981 in three city neighborhoods with 160 personal interviews being conducted. The second was with suburbanites in 1982 with a completion rate of 70% of 463 telephone interviews. The third in 1986 with 261 adults used the same format as the second survey. In all three surveys, subjects gave information about their demographics, media use, and residences. Neighborhood locus was determined by life cycle indicators (as age, sex, marital status); status constraints (as education, occupation, income); and life style indicators (as happiness with their neighborhood). Among both city and suburban subjects, watching local TV news was positively related to neighborhood locus in all three surveys. Readership of metropolitan dailies was positively related among suburbanites in 1986 but not in 1982. Readership of weeklies was correlated with neighborhood locus in 1986 but not in 1982. Among center city subjects in 1981, print media use was negatively related to neighborhood locus. Other findings are reported in the study.

SHOEMAKER, PAMELA J.; SCHOOLER, CAROLINE; & DANIELSON, WAYNE A. Involvement with the media: Recall versus recognition of election information. *Communication Research,* February 1989, *16,* 78-103.

Investigates how different kinds of involvement measures help to explain differences among people's knowledge of election information and questions whether the way we measure that knowledge affects conclusions about involvement with television and newspapers. A total of 238 interviews were conducted by telephone. The questionnaire covered media use and attitudes, perception and knowledge of candidates and issues, voting patterns, political beliefs and demographics. The dependent variable was the subject's knowledge of impending

local and state election candidates and issues. One knowledge measurement was recall of information; the other, recognition. Independent variables were demographics (education, income, age), exposure to television and newspapers, and a variety of involvement measures (behavioral, cognitive, gratifications sought, affective, and amount of cognitive effort). Hierarchical regression was used to test the data. It was found that knowledge derived from newspaper reading was best tapped by recall-type questions that access left-brain processing; that from television viewing, by recognition-type questions that access right-brain processing. Subjects reliant on television or newspapers scored equally well; but younger, newspaper-reliant subjects recalled more than did younger, television-reliant individuals. It was concluded that the issue should be directed away from whether information is retrievable and toward whether it is retrievable in a way that will be useful in making political decisions.

CHOI, HYEON CHEOL, & BECKER, SAMUEL L. Media use, issue/image discriminations, and voting. *Communication Research*, June 1987, *14*, 267-290.

Investigates the relation between motivation and the use of television news and newspapers and the effects of their reciprocal causal relationship on issue (or image) discrimination and on voter decision making during the 1982 Iowa gubernatorial election campaign. A causal model depicting the process through which potential voters develop discriminating perceptions of candidates' images and issue positions and the effects of these perceptions on the confidence they have in their voting decisions was developed and tested. Data were collected at two times, the first through paper-and-pencil questionnaires and the second in telephone interviews. In the first, 170 adults took part; in the second, 86 of these adults were questioned. Exogenous variables were education, campaign experience, television exposure, and newspaper exposure. Endogenous variables were information motivation, news media use, local television news viewing, political article reading, issue discrimination, image discrimination, and confidence of voter decision making. LISREL was used to test the validity of the model. Newspaper reading increased voters' ability to discriminate between the issue positions and images of candidates and that, in turn, increased confidence in voting decisions. Television news viewing had neither a direct nor indirect effect on confidence. Newspaper reading increased the probability of viewing television news, but television news had little or no effect on probability of reading newspapers.

WALKER, JAMES R. How media reliance affects political efficacy in the South. *Journalism Quarterly*, Fall 1988, *65*, 746-750.

Inquires if voters who rely on different sources of information about candidates' images and stands on issues differ in their levels of political efficacy and if any differences remain when the influence of demographic variables is statistically removed. Interviews were conducted with 1,917 subjects in six communities in southeastern United States. They indicated which of seven sources of campaign information they depended upon, responded to a 5-item scale assessing political efficacy, and answered questions concerning their age, education, and household income. Subjects who depended upon radio and visual materials represented 5% of the sample and were dropped. When the three covariates were removed, a significant relation existed between image reliance and political efficacy. No significant differences in political efficacy were found among the five issue reliant group means (television, newspaper, interpersonal, direct context, campaign literature). A covariate ANOVA compared only television and newspaper reliant subjects. Television reliant subjects were significantly lower in political efficacy than newspaper ones.

PIERCE, JOHN C.; LEE-SAMMONS, LYNETTE; & LOVRICH, JR., NICHOLAS P. U.S. and Japanese source reliance for environmental information. *Journalism Quarterly*, Winter 1988, *65*, 902-908.

Compares information source reliance of 524 Spokane, Washington, citizens with those of 694 citizens of three coastal Japanese cities. They were asked in a questionnaire to rate the importance of each of six sources for acquiring information about the dangers of water pollution in specific instances in their own countries. The mass media (television, newspapers, radio) are the most heavily relied upon sources by both the Japanese and the Americans. The Japanese rely more on both mass media and nonmass media than the Americans do. None of the coefficients of correlation between the four independent variables (level of education, policy process participation, policy relevant knowledge, environmental/public health danger) and each of the six information sources was of great magnitude. Reliance on sources of environmental information appears largely independent of the foregoing personal attributes. A result of factor analysis showed that reliance patterns are more unified among the Japanese than the Americans.

BEENTJES, JOHANNES W.J. Learning from television and books: A Dutch relication study based on Salomon's model. *Educational Technology Research & Development*, 1989, *37*(2), 47-58.

Replicates studies testing Salomon's Model which proposes that differences in learning effects between televiewing and book reading can be traced to differences in the amounts of mental effort viewers/readers use in processing information from both media. The 140 sixth-grade Dutch subjects were selected in such a way that comparisons could be made with results in earlier studies based upon the Model. Questionnaires were group administered, with the test administrator reading orally the questions. The instrument testing mental effort was followed by instruments for perceived demand characteristics and perceived self-efficacy. Unlike their American peers, Dutch children did not unconditionally perceive television as an easy medium, nor that they were more able to learn from television than from books. Instead, the perceived self-efficacy appeared to depend not on the medium itself but on the interaction of the medium and the topic.

III-2 Content analysis of printed sources

CRANNEY, A. GARR. Some religious, historical, and biblical contexts of adult reading instruction. *Contemporary Issues in Reading*, Fall 1988, *4*, 19-31.

Identifies Biblical references relating to reading by utilizing a computerized text of the King James Bible. From words extracted from Bible concordances and student papers, 49 reading-related terms were identified, such as *book, word, read*. When entered into a computer these words generated about 4,800 references. Organized by topic, 13 categories were constructed from passages considered relevant to the teaching of reading. These categories included such headings as Importance of Reading, Reading Difficulty, Methods, and Language and Words. An overview of each of the 13 categories is given in which specific references to the Bible are made.

MEYER, LINDA A.; CRUMMEY, LORRAINE; & GREER, EUNICE A. Elementary science textbooks: Their contents, text characteristics, and comprehensibility. *Journal of Research in Science Teaching*, September 1988, *25*, 435-463.

Analyzes two commercial science programs, grades 1-5, and two additional programs on one level to determine the content and general properties of these materials and to compare selected text segments across publishers. The content (chapter titles, vocabulary) of each series, common content, and presentation of content were investigated. Striking differences were found in the presentation of content, types of questions, and various text characteristics. The results are discussed in light of the differences found among programs and

opportunity to learn, the amount of text and activities in each, teachers' uses of the textbooks, and the need for careful examination of materials.

STEINER, LINDA. The role of readers in reporting texts. *Journalism Quarterly*, Fall 1988, *65*, 642-647.

Examines how newspaper readers are treated in 21 recently published college-level reporting textbooks in light of audience centered theories in literary criticism. These theories have important implications for journalism in terms of what is taught about the definition of newsworthiness, the nature of language, the authority of reporters, and the ideal newspaper audience. The textbooks examined ignored or misrepresented the social and dialogic nature of the reading process. It was pointed out that data can indicate percentages of readers who are interested in a topic but not what meanings they construct from the articles. The reporting textbooks ignore how reading is affected by previous reading and by anticipation of what may come. Even though articles are clearly written, all readers may not derive the same message. Reporters and editors should think seriously about their readers and not assume their articles are finished products to be distributed to passive readers.

WOODWARD, ARTHUR, & NAGEL, KATHLEEN CARTER. Old wine in new bottles: An analysis of changes in social studies textbooks from old to new edition. *Book Research Quarterly*, Winter 1987-88, *3*, 22-33.

Compares four recently published fifth-grade social studies textbooks with their previously copyrighted versions to determine changes in content, illustrations, maps and photographs, general instructional design, student questions and activities, general layout, and aesthetic design. Four chapters whose topics were common to all textbooks in the sample were analyzed. The paired teachers' editions were also analyzed to determine differences in front matter, program philosophy, teaching aids, and lesson plans for the same four chapters in the older and newer editions. Categories for text changes included "none," "minimal" (addition or deletion of less than a sentence), "minor" (addition or deletion of up to two paragraphs), and "major" (addition, deleting, or rewriting of sections). Of the four paired textbooks, only one had undergone substantial revision. Relatively few content and pedagogical changes were found. Changes were mostly aesthetic: redesigned covers, additional color photographs, tables blocked in color. Teachers' guide books reflected the changes or lack of changes in the corresponding student textbooks.

MEADOWS, RITA E., & FILLMER, H. THOMPSON. Depictions of aging in basal readers of the 1960s and 1980s. *Educational Gerontology*, 1987, *13*(1), 85-100.

Analyzes contents of five basal series published in the 1960s and five in the 1980s to determine how the elderly were portrayed. The analysis focused on demographic data, literary depiction, personal characteristics, and general representations of characters who appear to be 65 years old or older. A checklist containing 21 categories with 76 subdivisions was used in the analysis. Although the elderly were found to be underrepresented in these books in comparison to the actual population, they were generally portrayed in these series at both time periods as competent, helpful, positive members of society.

BRAMLETT-SOLOMON, SHARON, & WILSON, VANESSA. Images of the elderly in *Life* and *Ebony*, 1978-1987. *Journalism Quarterly*, Spring 1989, *66*, 185-188.

Examines how black and white elderly people are portrayed in advertisements in all monthly issues of *Ebony* and *Life* between 1978 and 1987. They were content analyzed for frequency of portrayals, manner of portrayals, and differences between the two magazines. The elderly were featured in 98 (1.8%) of the 5,813 ads in *Life* and in 181 (1.7%) of the 10,358 ads in *Ebony*. Elderly people in ads in both magazines were more likely to appear with younger people than alone. No statistical difference was found between the magazines

on the sex variable. White elderly people appeared in *Ebony* six times more often than black elderly people appeared in *Life*. Four times as many ads depicted the elderly advertising aging-associated products in *Ebony* than in *Life*.

STOVALL, JAMES GLEN. Coverage of 1984 presidential campaign. *Journalism Quarterly*, Summer 1988, *65*, 443-449, 484.

Examines the type, amount, and quality of the coverage of the major party presidential and vice-presidential candidates in the 1984 election and compares some data with that from the 1980 election. From 48 daily newspapers throughout the country, a list of 674 news events about the 1984 election was prepared. News stories about these events were coded in each newspaper between September 2 and November 4 according to length, placement in the paper, headline size, number of pictures, and sources. The events were divided into two categories: party (campaign events and issues) and nonparty (public opinion polls, debates, and miscellaneous content) events. Campaign events, not issues, dominated the news coverage in both years, about half coming from party sources. In both years, public opinion polls received much attention. The Republican Party in 1984 had a decided edge in quantity and quality of coverage and placement in the papers over the Democrats. Neither vice-presidential candidate had a clear advantage in the amount or quality of news coverage received in 1984.

FICO, FREDERICK; CLOGSTON, JOHN; & PIZANTE, GARY. Influences of party and incumbency on 1984 Michigan election coverage. *Journalism Quarterly*, Fall 1988, *65*, 709-713, 739.

Analyzes 587 news stories in 15 Michigan dailies during October and November 1984, to assess reported candidate characteristics. Coverage included the U.S. presidential, the U.S. Senate, U.S. House of Representatives, and Michigan statehouse elections. Candidates were identified by party and incumbency status. Stories were coded for the presence of campaign emphases, and candidate strengths and weaknesses. Differences between the percentage of stories including these factors were examined. The analyses showed stories differed in seven categories for incumbency status, compared to four for political party. Incumbency made more difference about what stories contained about candidates at the smaller rather than at the larger constituency levels. For all races incumbents were characterized as being strong in economic issues, group and party support, and experience. Challengers were cited for weaknesses. It was concluded that incumbency made a crucial difference in what newspaper stories said about candidates, especially at lower electoral levels.

MCDEVITT, MIKE. Ideological language and the press: Coverage of Inaugural, State of the Union addresses. *Mass Communication Review*, 1986, *13*(1,2, & 3), 18-24.

Examines the ideological messages of four Presidents in their State of the Union and Inaugural Addresses in five metropolitan newspapers. The unit of analysis was the ideograph. Sixteen ideographs (for example, freedom, liberty) were selected for the content analysis. The number of ideographs appearing in the actual addresses and those appearing in the newspaper accounts were counted. Newspaper accounts of the addresses contained fewer ideographs per number of words than the actual addresses. There was a mean of 4.3 ideographs per 1,000 words in the articles compared with a mean of 7.3 in the addresses. The results of a two-tailed t-test indicated this difference was significant at .02. Just as there were more ideographs in Inaugural addresses than in State of the Union addresses, there were more ideographs in Inaugural newspaper accounts than State of the Union newspaper accounts.

STREITMATTER, RODGER. The rise and triumph of the White House photo opportunity. *Journalism Quarterly*, Winter 1988, *65*, 981-985.

Examines news coverage resulting from photo opportunities staged by the presidents who have served during the last quarter century. The study focused on the second and third years of each president's first term from 1962 to 1983. From the presidential photographs on the front pages of 2,000 editions of four newspapers, those that resulted from staged photo opportunities were identified. The most significant finding was that the White House photo opportunities have grown steadily and rapidly, the figures consistently becoming larger with each successive administration. President Reagan was considered the undisputed master of the photo opportunity with his coverage soaring 61% beyond the previous administration. He also expanded the use of these opportunities.

SNEED, DON. Newpapers call for swift justices: A study of the McKinley assassination. *Journalism Quarterly*, Summer 1988, *65*, 360-367, 398.

Deals with press performance before and during the trial of President McKinley's assassin, Leon Czolgosz. The study focused on how three newspapers, through headlines, news columns, and editorials, performed and created an anarchist stereotype which may have resulted in the denial of a fair trial for the defendant. Newspaper coverage between September 7 and 26, 1901 was studied. A qualitative analysis was made to determine evidence of stereotyping and objectivity of headlines, news stories, and editorial comments. Coverage was shallow. The newspapers studied, created, and perpetuated the anarchist stereotype, portraying its proponents as violent individuals. As a result, Czolgosz became the embodiment of anarchy through constant identification with the doctrine in headlines, news stories, and editorials.

SMITH, RON F.; TUMLIN, SHERLYN-ANN; & HENNING, VOLKER. A gatekeeping study of Gannett's all-local newspaper experiment. *Journalism Quarterly*, Fall 1988, *65*, 740-744.

Questions what happened to the content of a newspaper when the editors were charged with filling a larger newshole in a paper carrying only state and local news after it had also carried national and international news. For a comparison of local news content, random samples were selected of two two-week periods in 1985 before the change was made and in 1986 after the change was made. All locally written stories were coded into one of 12 categories and were measured. Because of differences in column widths, a basic space unit was used as a measurement standard. Many changes in the nature and characteristics in the coverage were found. The revamped paper carried considerably more business news, crime stories, and announcements. The amount of space devoted to features remained almost the same. Stories were significantly shorter in the new product.

LESTER, PAUL. Use of visual elements on newspaper front pages. *Journalism Quarterly*, Fall 1988, *65*, 760-763.

Compares front page visual elements of *USA Today* with those in two other newspapers having similar formats and with two having traditional formats. The visual elements of photography, illustrations, maps, charts, and any combination were examined in each newspaper for the same five-day week of each month in 1986. Each element was analyzed as to subject, location on the page, source, size, accompanying articles, racial and sexual composition, and mug shots. The 300 newspapers yielded seven types of visual elements with photographs predominating. Newspapers designed like *USA Today* used many more small, sports-related images without a story on the front page than the traditionally designed ones do. The type of visual element, location on the page, racial and sexual composition of the subject of the image, and source of the visual did not clearly distinguish the two groups.

SMITH, EDWARD J., & HAJASH, DONNA J. Information graphics in 30 daily newspapers. *Journalism Quarterly*, Fall 1988, *65*, 714-718.

Describes the use of informational graphics in 30 United States daily newspapers during the week of October 28, 1986. Informational graphics were defined as visual or graphic presentations of data, statistics, or processes, and were examined according to 13 variables. The sample included 947 informational graphics. The news topic category that produced the largest percentage of graphics was business/economics, followed by weather, and public affairs. The majority were used in conjunction with a story. Maps were the most frequently used graphic type, followed by bar charts, line charts, and lists. Little color was used. More than a third were embellished (illustrated, decorated). About half were produced inhouse, suggesting that syndication is not yet a widespread phenomenon.

EVERETT, STEPHEN E. Financial services advertising before and after the crash of 1987. *Journalism Quarterly,* Winter 1988, *65,* 920-924, 980.

Examines changes in advertising in the *Wall Street Journal* before and after the 1987 crash. Twenty issues from two different periods between September 21 and November 6, 1987, were content analyzed. The 522 display ads dealing with financial services were measured and coded as pro- or anti-NYSE or neutral and as having economic and/or cultural appeal or both. No tests of significance were conducted. After the crash there was an increase of about 8% in ads which were found to be somewhat larger than before the crash. Pro-NYSE ads dropped to one-third its precrash level. The proportion of ads featuring cultural and economic appeal to investors increased after the crash. The most striking change was the 350% increase of cultural appeals. More firms placed financial service ads after the crash than they did before.

OLASKY, MARVIN. Social Darwinism on the editorial page: American newspapers and the Boer War. *Journalism Quarterly,* Summer 1988, *65,* 420-424.

Ascertains editorial positions of seven newspapers representing a cross-section of the United States on the Boer War of 1899. All agreed that the Boers (South African Dutch-descended whites) were right in their immediate conflict with the British, but they also offered reasons why the United States should not try to mediate the dispute. None of the papers expressed any interest in the situation of South African blacks. Attacks were made on the fundamentalist religious beliefs of the Boers who were considered ignorant, possessing absurd views of religion. Social Darwinism, racism, and destiny were combined with political pragmatism on all seven editorial pages. Occasional sympathy for the Boers was found.

VAN DRIEL, BAREND, & RICHARDSON, JAMES T. Print media coverage of new religious movements: A longitudinal study. *Journal of Communication,* Summer 1988, *38,* 37-61.

Conducts a longitudinal study of the coverage of new religious movements in U.S. print media from early 1970s to mid 1980s. The purposes were to investigate how these groups were portrayed and to uncover subtleties of media positions in the conflicts between mainstream society and some of the unpopular movements. Four metropolitan newspapers and three news weeklies between May, 1972, and April, 1984, provided the data for 15 new religions and 4 marginal groups. The numbers of stories, articles, editorials, and the like were tallied for each subperiod of 2.5 years. A codebook was developed to analyze each on a variety of dimensions. Comparisons of media coverage of each group, attitudes toward the groups, and positions of the media were included. A significant shift in terms of specific groups receiving most of the attention was found. At all times the Unification Church received the most coverage. The topic receiving the most publicity was legal conflicts/criminal allegations. Other findings are reported in the study, including comparisons of media coverage at different times.

LEVIN, JACK; MODY-DESBAREAU, AMITA; & ARLUKE, ARNOLD. The gossip tabloid as agent of social control. *Journal Quarterly,* Summer 1988, *65,* 514-517.

Analyzes four gossip tabloids for kinds of persons praised or condemned, their activities and accomplishments, and themes being communicated. A sample of 24 issues, six per title, during a six-month period in 1983 yielded 311 articles for analysis. Each article was coded as to characteristics of the person and tone, quality, and topic of the gossip. The results indicated that the people described were white, relatively young adults who already had celebrity status. Males were slightly over-represented (53). Fully 61% of the articles focused on celebrities from show business or politics. They were included almost always (98%) because of some relatively minor event. Those who were not celebrities were profiled because of some extraordinary problem or achievement. The articles were positive in tone (73%). Those depicting unhappy events tended to have happy endings.

SCHULTZ-BROOKS, TERRI. American press coverage of President François Mitterand. *Gazette,* 1987, *39*(2), 103-122.

Analyzes U.S. press coverage of François Mitterrand's domestic policies from his election to early 1985. The newspapers reviewed over different time periods were the *Wall Street Journal, The New York Times,* and the *Washington Post.* The *Los Angeles Times* was used for only selected articles on French culture and Mitterrand's personality. Bias was found in four ways: the negative way in which articles were constructed, the omission of basic background information, the change to more positive reporting after the announcement of Mitterrand's austerity program, and a lack of balance in essays and opinion pieces. Examples are given for the four forms of bias, but quantitative data are lacking. No information is given concerning procedures used in analyzing the news stories.

CHANG, TSAN-KUO. The news and U.S.-China policy: Symbols in newspapers and documents. *Journalism Quarterly,* Summer 1988, *65,* 320-327.

Examines how political symbols were used in U.S.-China policy-making process during the past three decades. Front page news and editorials were selected from the *New York Times* and the *Washington Post* from 1950 through 1984. The paragraph in the newspaper items and government documents was the coding unit. The three types of symbols examined were ideological, geographical, and legal. The news coverage of U.S.-China policy seemed to reflect the Sino-American relations over time. Representations of China and Taiwan in both papers shifted from the use of ideological and emotional symbols in the first two decades to that of legal and precise symbols in the last decade, the shift appearing to follow closely the change of U.S. policy toward China and Taiwan. The disappearance of the labels "Communist" or "Red China" and the emergence of "People's Republic of China" or "China" was closely reflected in news coverage. It was in 1971 that there was a clear shift from "Nationalist China" to "Taiwan."

SIDDIQI, MOHAMMED A. Indian ethnic press in the United States and its functions in the Indian ethnic community of the U.S. *Gazette,* 1987, *39*(3), 181-194.

Explores the functions of the relatively new Indian ethnic press of the United States. Six issues of four news weeklies (*India Abroad, India News, India Tribune,* and *The Overseas Times)* for each year between 1978 and 1982 were selected for content analysis. The contents of the sampled weeklies were coded into seven categories. In these weeklies, 44% of the space was used for advertisements. Space used for all weeklies ranged from 50.6% for news of India to 4.0% for news of United States-India relations. The results of a chi-square test showed a systematic relation between the number of items in each category and the successive years of publication. A trend was noted of decreasing news of the homeland and increasing news related to the present ethnic community. It was concluded that this ethnic press performed a dual function: preserving cultural ties of the community to the homeland and promoting activities in the new home.

TURK, JUDY VANSLYKE; RICHSTAD, JIM; BRYSON, JR., ROBERT L.; & JOHNSON, SAMMYE M. Hispanic Americans in the news in two southwestern cities. *Journalism Quarterly,* Spring 1989, *66,* 107-113.

Examines how Hispanic Americans and Hispanic issues are covered by one New Mexico newspaper and by one Texas newspaper. Three constructed-year samples for 1982, 1984, and 1986 were selected. Twenty-seven issues of each magazine yielded 1,841 local stories for analysis. Slightly fewer than half (851) were coded as Hispanic. Most of this content consisted of text material with 54% being hard news. There were significant differences between the two newspapers as to the presence or absence of Hispanic criteria (names, issues, or references to culture or custom) and the type of coverage given to Hispanic individuals or issues. Government and political subjects dominated the Hispanic stories, followed by judicial and crime news. Hispanic stories and photos were generally longer, received bigger headlines and more prominent placement in the newspapers, and focused less on reporting bad news than coverage of Anglos. It was concluded that Hispanics are treated more equitably than in the past on several significant dimensions of newspaper coverage.

SUBERVI-VÉLEZ, FEDERICO A. Spanish-language daily newspapers and the 1984 elections. *Journalism Quarterly,* Fall 1988, *63,* 678-685.

Examines 653 articles concerned with political news and information published by six Spanish-language newspapers between September 1 and November 6, 1984. Articles related to the presidential election were coded according to type of article, source, page number and zone location, square centimeters, and party affiliation. Headlines were coded by three topics for classifying characters. Codes were finally classified as favorable, unfavorable, neutral. Chi-square tests determined if the articles so classified published by each paper for each party were significantly different. Findings were reported for each of the six newspapers individually. Based upon these findings it was concluded that Spanish-language newspapers appeared to be more partisan than their Anglo counterparts. The Republican campaign was covered better in four newspapers and the Democratic, in two. This conclusion held true in terms of number of articles, space, placement, and characters in photographs.

ATWOOD, L. ERWIN. News of U.S. and Japan in each other's papers. *Gazette,* 1987, *39*(2), 73-89.

Compares the presentation of news of the United States and Japan in three of each other's newspapers during the last week of October, 1982. Foreign stories were those mentioning a country other than the one in which the newspaper was published and were coded into one of 16 categories. In the three Japanese newspapers, the United States was the most frequently mentioned nation; in the U.S. papers, Japan was either the second or third most frequently mentioned nation. Newspapers of both nations emphasized coverage of non-Asian countries; none focused their news on Asia. The Japanese newspapers ran between 4.7 and 6.3 times as many stories about the U.S. as their U.S. counterparts did about Japan. Foreign relations accounted for the largest proportion of Japanese news stories; a greater proportion of the content of the U.S. papers was about economics. The Japanese newspapers cited a wider variety of sources than did those in the U.S. The data suggest an enormous disparity in the amount and types of information readers in the two countries gain about the other country, the Japanese providing more news about the United States than vice versa. The news emphasized economic and political matters and ignored social and cultural aspects. Overall, the Japanese press did a better job of informing its readers about the United States than the U.S. press did in telling its readers about Japan.

MONTGOMERY, LOUISE F. Images of the United States in the Latin American press. *Journalism Quarterly,* Fall 1988, *65,* 655-660.

Replicates a 1959 study by another researcher in regard to the coverage of the United States in Latin American countries. All stories dealing with the United States found in 19 newspapers were counted, measured, and analyzed on the basis of the image they portrayed. The results were compared with those of the earlier study. The only country not covered in this study which was included in the earlier study was Paraguay. The results of the 1984 study showed that coverage of the United States had decreased, both in average inches and as a percentage of the newshole. The overwhelming attention paid to politics and government repeats the pattern found in the 1959 study. A multi-faceted America was found then, but in the present study positive images were overshadowed by a warlike image. Foreign aid stories were numerous. The most positive change occurred in the Latin American nations' interest in the American space effort.

ZAHAROPOULOS, THIMIOS. The image of the U.S. in the Greek press. *Journalism Quarterly*, Spring 1989, *66*, 188-192.

Examines seven daily and two additional Sunday Greek newspapers for the image presented of the United States and compares left-wing and right-wing newspapers in that respect. The nine newspapers were sampled randomly during a 4-month period from October, 1986, to January, 1987, resulting in four constructed weeks with a total of 28 sampling days. Each article was recorded in terms of content, length, and place of origin and was categorized. Widely covered news types included Irangate, U.S./Greek affairs, and U.S./USSR/Arms Control issues. The newspapers had 668 news items, covering 5,080 column inches of space about the United States. An association was found between right-wing newspapers and U.S. domestic news and left-wing newspapers and foreign news. Left-wing papers carried more news about the United States than right-wing ones. It was concluded that these newspapers created an impressive image of the United States for over 75% of Greek newspaper readers.

LIST, KAREN K. The post-revolutionary woman idealized: Philadelphia media's 'Republican Mother.' *Journalism Quarterly*, Spring 1989, *66*, 65-75.

Analyzes 3 major party Philadelphia newspapers and 15 magazines published in America in the 1790s to determine how they presented the status and role of women. Newspapers were read for a two-year period, and magazines were read in their entirety for their commentaries on women's roles. Both failed to convey the idea that women could be autonomous. Only rarely did newspapers encourage women to act independently. Few stories of successful women were found in the magazines. Emphasis was placed on the idea that women's only opportunity to wield power was through pleasing and influencing their husbands and children. Most stressed that women belong in the home.

SHERER, MICHAEL. Comparing magazine photos of Vietnam and Korean Wars. *Journalism Quarterly*, Fall 1988, *65*, 752-756.

Asks if photographs published in *Life*, *Newsweek*, and *Time* during the Korean and Vietnam wars depicted a key battle in each war in a similar way. Only photographs which provided the reader with images of the combat areas of Korea and South Vietnam were included. Each of the 224 photographs was analyzed for scene, subject, portrayal, and perspective. It was concluded that there was some support for the idea that the image of war was not the same for both events. More of the brutal side of war was depicted during the offensive in Vietnam than was shown in the Korean one. The latter was represented by a more contemplative view of people both shocked by and safe from combat experience. There was no real difference between the two wars in terms of who was photographed and from what perspective the people were shown.

JOHNSON, SAMMYE, & CHRIST, WILLIAM G. Women through *Time:* Who gets covered? *Journalism Quarterly,* Winter 1988, *65,* 889-897.

Analyzes 482 covers of *Time* featuring women from the beginning of its publication in 1923 through December 28, 1982, to determine age, nationality, citizenship, occupation, and centrality of placement of women. When these variables could not be determined from the articles, secondary sources were conducted. Women were represented the most in the 1970s (113 covers). Throughout the 65 years, 482 covers (14%) pictured women. Of the 346 women on covers, several appeared more than once. Of the 340 women who could be identified by age, 39 was the average age. In terms of nationality and citizenship, 31 countries were represented, the majority (67%) being from the United States. Women's 25 occupations focused mostly on artists/entertainers (37%). The majority of the women were centrally featured, either by themselves or with other women.

GRUBE, ANETTE, & BOEHME-DUERR, KARIN. AIDS in international news magazines. *Journalism Quarterly,* Fall, *65,* 686-689.

Applies findings of a study concerned with factors found valid in the selection of (foreign) news to the topic of AIDS. Issues from the third week of September, 1985, until the third week of March, 1986, of three German news magazines and the European editions of *Time* and *Newsweek* were analyzed. In the total of 130 editions, the investigators found 101 articles and eight ads on the topic. Articles were coded for a number of characteristics. Not all of the news factors found in the earlier study held true. No straightforward relation was found between the number of AIDS infections in a country and space/number of articles devoted to them in that country. The more liberal German news magazine devoted more space to the topic than did the other periodicals. The United States dominated the news reports. A moderate relation was found between space devoted to AIDS and known people mentioned by name.

BRENDERS, DAVID A., & ROBINSON, JAMES D. An analysis of self-help articles: 1972-1980. *Mass Communication Review,* Fall 1985, *11*(3), 29-36.

Focuses on self-help information found in 137 articles published in popular magazines between 1972-1980. The articles were selected from *Reader's Guide* or *Magazine Index* designators showing a relationship to self-help or popular psychological advice. The articles were coded by two trained raters as follows: sex of the hypothetical reader, locus of the discussed problem-solution, nature of the advice, theoretical tone of the article, suggestions for professional help, the burden of proof that the problem had been solved, and advice given. Within sex-of-the-reader category, 25% were directed towards women while 74% made no distinction. A majority of the articles located the problem and the solution within the individual. Many self-help articles created and solved their own problems. Articles surveyed rarely if ever blamed a hostile or unnatural environment for one's difficulties.

SOLEY, LAWRENCE C., & REID, LEONARD N. Taking it off: Are models in magazine ads wearing less? *Journalism Quarterly,* Winter 1988, *65,* 960-966.

Codes the number of adult male and female models in the ads of six magazines on four dimensions of dress: demure dress, suggestive dress, partially clad, and nude. Three randomly selected magazines from each of three groups (men's interests, women's interests, general interest) for 1964 and 1984 were analyzed. The total number of full-page or larger ads containing adult models were 367 in 1964 and 467 in 1984. As hypothesized, magazine advertisements in 1984 contained more nudity than those from 1964. Comparisons were made of the numbers and the manner in which males and females were portrayed. It was concluded that changes in society's sexual attitudes and behaviors between 1964 and 1984

were mirrored in the content of these ads and that, of the two genders, women became more sexy in these ads over the 20-year period.

HOWARD, DANIEL J., & BARRY, THOMAS E. The prevalence of question use in print advertising: Headline strategies. *Journal of Advertising Research*, August/September 1988, *28*(4), 18-25.

Analyzes advertisements in 10 national consumer magazines for the years 1983 to 1985 for the presence of questions in headlines, subheadlines, body copy, picture captions, or "tag" (slogan) closing. Questions were classified for their objectives and for the means of attaining these objectives. Of the 33,023 full-page or larger advertisements, 6,689 (20.25%) contained at least one question. Questions were found in 5.7 of these ads. Question strategies utilized in headlines most frequently were curiosity and completion (tasks requiring further reading), rhetorical agreement and concession and benefit/attribute possession (attributes of the products advertised). Question headlines were more frequently found in shorter ads than in longer ones.

RICE, MARSHALL D., & LU, ZAIMING. A content analysis of Chinese magazine advertisements. *Journal of Advertising*, 1988, *17*(4), 43-48.

Determines levels of advertising information based on types of magazines and products in 472 Chinese consumer magazines. Magazines were categorized into one of eight classifications according to editorial content. An advertisement was considered informative if it contained at least one of the 14 information cues from the Resnik and Sterns classification system. Using this criterion, all advertisements were considered informative. A total of 1,066 cues was present in the ads, with an average of 2.26 cues per ad. Health and food ads had the greatest information content, followed by general readership and entertainment. It was found that Chinese magazine advertisements generally contained a large amount of information in comparison to similar studies of Western advertising.

III-3 Readability

MORRIS, JUDITH A., & JOHNS, JERRY L. Vocabulary load and readability in three first-grade reading series from the 1960s and 1980s. *Illinois Reading Council Journal*, Spring 1989, *17*, 27-32.

Identifies changes that have occurred in first grade basal reading materials published in the early 1960s and the early 1980s concerning vocabulary load and readability in three basal reading series. Information on the vocabulary list pages of the student books from the 1960s editions and the teacher's guides for the 1980s editions provided the number of words used in the various books. A sizable increase in the vocabulary load was found in each series. The total number of words has increased between 50% and 300%. The Spache Readability Formula was applied to five samples from the pre-primers, primers, and first readers of each series. The average increase in readability was 3.1 months.

MAVROGENES, NANCY A. Readability and parent communications; Can parents understand what schools write to them? *Reading Horizons*. Part I: Summer 1988, *28*, 225-231; Part II: Fall 1988, *29*, 5-12.

Analyzes materials which six schools sent to parents for their level of difficulty. Officials from six all-day kindergartens for educationally disadvantaged children submitted 67 letters, notices, reports, and newsletters for parents in English and in Spanish which were analyzed by Fry's Graph. The mean readability level for these materials was mid 10th grade, with a range of 6th grade through college levels. Little difference was found in the mean readability levels for the six schools. Three of the six teachers supplied information for eight

classes concerning parents' levels of education. Approximately 66% of the English speaking parents had completed only some high school or less. It was concluded that a significant number of parents were probably unable to read the messages sent to them by the school. Recommendations were made concerning the simplifying of wording and sentence structure in these communications as well as ways to improve their appearances. More attention needed to be paid to the mechanics of spelling, punctuation, typing, and grammar to make the messages more readable.

PORTER, WILLIAM C., & STEPHENS, FLINT. Estimating readability: A study of Utah editors' abilities. *Newspaper Research Journal*, Winter 1989, *10*(2), 87-96.

Tests how accurately newspaper managing editors estimated readability of news copy. Five of the six Utah editors contacted completed a questionnaire which consisted of five 100-word writing samples taken from longer news stories and a final project story written by a college student. Beneath each story was a numbered scale on which editors indicated their estimates of the reading difficulty level. Readability tests using the Flesch formula were run on the full stories. The editors in every instance estimated that the stories were easier to read than the Flesch scores indicated, ranging from 1.3 to 7.3 grade levels lower. Analysis of variance showed differences between editors' estimates and Flesch scores to be significant at the .01 level.

III-4 Reading interests, preferences, habits

SAMUELS, BARBARA G. Young adults' choices: Why do students "really like" particular books? *Journal of Reading*, May 1989, *32*, 714-719.

Analyzes approximately 2,200 written responses to books in connection with the Young Adults' Choices program. After books were read, subjects answered open-ended questions about why they did or did not like the books. The statements were divided into two broad categories: those dealing with structure (style, character, plot, theme, setting, illustrations, genre, subject matter) and those that were descriptive or evaluative. Over half (56%) were categorized as structural. Subject matter accounted for the largest number of students' positive responses to books; the most popular topic was war. Genre and author's style drew a number of comments. Almost half (44%) of the responses were descriptive or evaluative. Overwhelmingly, students like books with teen protagonists and stories that were realistic fiction and problem novels.

SELSKY, DEBORAH. American reading habits (and education) on the rise. *Library Journal*, May 15, 1989, *114*(9), 22.

Reports the findings of a 1988 Gallup survey to determine how, if at all, American reading habits have changed. The survey asked a sample of adults which entertainment activities they had pursued the day before. Those who had read the most books in the last year tended to be female, college educated, and heavy book buyers. The statistics show that book and magazine reading are significantly more popular than 26 years ago. It was concluded that the percentage considered great book readers will continue to increase since reading and book buying tend to be closely associated with the level of education attained and college enrollments have been growing steadily.

SCALES, ALICE M., & BIGGS, SHIRLEY A. Reading habits of elderly adults: Implications for instruction. *Educational Gerontology*, 1987, *13*(6), 521-532.

Determines similarities and differences in reading habits of elderly adults and uses them for suggestions about instructional activities. The 49 volunteer subjects completed the 76-item *Survey of Elderly Reading Attitudes*. These items were classified by the investigators

into five categories: reading skill, preference, physical functioning, attention span/concentration, and emotional well being. Results were analyzed by percentages of responses to individual items and by chi-square used to determine differences between married and single subjects and male and female subjects. Most reported varying their reading speed, having time to read, could use a library card catalogue but did not go to the library once a month or have an up-to-date library card. They reported having trouble determining the author's purpose, distinguishing fact from opinion, and reading government documents. Numerous other findings were reported.

ATWATER, TONY. Reader interest in environmental news. *Newspaper Research Journal*, Fall 1988, *10*(1), 31-38.

Examines news coverage in three Michigan newspapers of the environment and reader interest in the issue. The front sections were analyzed seven days a week between October 5 and December 5, 1983, to identify the environmental topics featured prominently. A total of 98% considered environmental news to be very or somewhat important. The six topics receiving the most news coverage from a total of 130 environmental stories were used to examine reader interest and use mode of these stories. In a telephone survey, 304 subjects indicated how important they regarded each topic. They responded to nine statements concerning reasons they paid attention to environmental news. Nearly half of the stories appeared within the first four pages. They though this news affected their lives, and they wanted to know what was going on in the world. They considered the topics to be of similar and substantial importance.

III-5 Readership

KIRSCH, IRWIN S., & GUTHRIE, JOHN T. Adult reading practices for work and leisure. *Adult Education Quarterly*, Summer 1984, *34*, 213-232.

Develops an instrument to quantify individual reading practices and examines how these practices vary in different occupational groups and social settings. Reading practice involved three dimensions: contents, materials, or formats. These reading practices are examined through case studies and structured interviews with 99 adults associated with one high technology company. Two individual interviews were conducted with each subject. Analyses of variance were used to examine the different reading practices of those in different occupations and settings. Reading volumes for specific contents, materials, and uses were each significantly influenced by the different occupations and settings in which reading occurred.

ZILL, NICHOLAS, & WINGLEE, MARIANNE. Literature reading in the United States: Data from national surveys and their policy implications. *Book Research Quarterly*, Spring 1989, *5*, 24-58.

Analyzes adult readership of quality fiction, drama, and poetry, based upon data from several national surveys. Numerous findings are reported for different aspects of the topic, as numbers and kinds of people who read literature, the current status of literature reading, what is being read (varieties of fiction); factors affecting literary participation (demographic characteristics, including education, income, sex, ethnic group, residence); socialization and training (early encouragement of reading, creative writing classes, current life style, employment and student status, marital status, presence of children, the role of television). More than half of adults surveyed reported having read some fiction, poetry, or drama within the last year, much being very light in nature. Literature reading increased among older Americans but decreased among young adults. Large numbers of Americans do not read literature

at all. Three reasons that quality literature is not read more widely are a shortage of readers who appreciate good literature, a dearth of writers maintaining high standards, and the need for better promotion of literary works.

FICO, FREDERICK; HEETER, CARRIE; SOFFIN, STAN; & STANLEY, CYNTHIA. New wave gatekeeping; Electronic indexing effects on newspaper reading. *Communication Research*, June 1987, *14*, 335-351.

Measures differences in news readership and attitudes between traditional-style newspapers and those having a large front-page topical index. Two versions of a large state university's student daily were created. The control newspaper was the standard issue; the experimental paper featured a front-page index with nine primary classifications which were further subdivided into world, nation, state, local, and campus categories. Approximately the same stories appeared in both papers. For all stories read, the 206 control subjects and the 220 experimental subjects were instructed to draw a line at the point where they stopped reading. After the reading, subjects completed questionnaires. The two groups did not differ in the number of stories read, but those in the indexed version read significantly fewer of the top stories. Readers of the regular newspaper found it significantly easier to locate stories and more attractive, felt significantly better informed about top stories, and considered themselves freer from editorial directions than readers of the indexed paper. Most readers of the latter had an adverse reaction to it.

HEETER, CARRIE; BROWN, NATALIE; SOFFIN, STAN; STANLEY, CYNTHIA; & SALWEN, MICHAEL. Agenda-setting by electronic text news. *Journalism Quarterly*, Spring 1989, *66*, 101-106.

Examines the agenda-setting impacts of electronic text news (ETN) and reactions to ETN as a news medium. The 19 volunteer experimental subjects refrained from reading all traditional news media for one week and used the ETN for 30 minutes each day in the communication technology laboratory. A control group of 174 students used the traditional news media. Posttests measured subjects' assessments of the importance of 25 news topics, their awareness of top stories and countries in the news, and their news media use habits. Experimental subjects were also asked how they thought ETN editors ordered stories within a topic index and what their overall reactions to ETN were. The two groups' rankings for the 25 topics correlated +.96 by Spearman's rank-order coefficient of correlation. The Spearman rank coefficient for the two groups was +.57 when they named nations in the news. Fifteen of the 19 experimental subjects felt well informed about news events from their experience with ETN.

MCCOMBS, MAXWELL E.; MAURO, JOHN B.; & SON, JINOK. Predicting newspaper readership from content characteristics: A replication. *Newspaper Research Journal*, Fall 1988, *10*(1), 25-30.

Replicates an earlier study to determine characteristics of news items that best predict readership for different age and sex groups. Interviews were conducted with 357 adults in which they were asked what items in one issue of one newspaper they read and how they read them. In an analysis of this paper 15 content dimensions, later reduced to 12, were identified. In a series of multiple analyses, the dependent variable, readership, was measured in three ways (noticed, read some, read most) among five groups of readers (young, old, men, women, all readers) and for three kinds of content (all items, editorials, news stories). The front page of a section, total space of the item, form, and page were found to be the key predictors of readership. Front page placement was the dominant predictor of readership for each age group and each sex group.

GRISWOLD, JR., WILLIAM F., & MOORE, ROY L. Factors affecting readership of news and advertising in a small daily newspaper. *Newspaper Research Journal*, Winter 1989, *10*(2), 55-66.

Compares advertising reading with reading of other types of newspaper content. Subjects were 316 out of 430 residents sampled who read the newspaper at least once a month. They were interviewed by telephone concerning media use and demographic features. Their answers showed substantial differences in the frequency of reading different types of newspaper content. Gender was a strong predictor of the frequency subjects read ads. A factor analysis revealed that readership of department store and grocery store ads related to reading of food, health, and medicine news while car advertising readership was linked to sports and stock quotations. The overall results showed that these newspaper readers were selective about the news, information, entertainment, and advertising content that they read.

BOGART, LEO, & TOLLEY, B. STUART. The search for information in newspaper advertising. *Journal of Advertising Research*, April/May 1988, *28*(2), 9-19.

Investigates in a series of experiments reader response to advertisements. Alternative procedures for assessing advertising performance were tested in 27 studies of daily newspapers between 1978 and 1981 and 18 studies between 1984 and 1986. Altogether, 7,296 telephone interviews were conducted, covering 534 ads in the 45 measured newspapers. Research techniques used in the study included telephone interviews, observation of the readers, videotaping, EEG records, and eye-tracking camera records. Interest in an ad was greater when there was a propensity to purchase the product advertised but was not related to its physical attributes. The subjects required a high degree of concentration, searched for useful or interesting information, and exhibited unique patterns not duplicated by other readers. In the eye movement photography no two readers looked at the same material alike. The degree to which an ad receives direct attention depends upon what the ad brings to the reader and what the reader brings to the ad. It was concluded that newspaper advertisements are understood much better if the whole reading process is explored rather than gaining performance scores for individual ads.

ROSSITER, JOHN R. The increase in magazine ad readership. *Journal of Advertising Research*, October-November 1988, *28*(5), 35-39.

Compares Starch scores ("noted," "seen associated," and "read most") for advertisements published in 1977 and 1987, a 10-year span occurring pre and post the publication of the Starch guidelines. Readership figures were taken from Starch's *Adnorms*. The magazine sample consisted of 15 men's magazines and 15 women's magazines. Based on 2-tailed t tests, increases in readership performance over the decade are statistically significant at the .01 level. A marked increase on all readership indicators over the decade for men's and women's publications was found.

PAYNE, GREGG A.; SEVERN, JESSICA J.H.; & DOZIER, DAVID M. Uses and gratifications motivers as indicators of magazine readership. *Journalism Quarterly*, Winter 1988, *65*, 909-913, 959.

Compares readers of trade and consumer magazines on surveillance (obtaining information about the world), interaction (preparation for interpersonal activities in the larger social order), and diversion (relaxing, escaping with entertainment material). A telephone survey was conducted with 200 subjects, one group of 100 responding to a questionnaire based on readership of a consumer magazine; the other 100, a trade magazine. A factor analysis was executed based on responses about uses of the magazines. Readers of consumer magazines scored higher on the diversion scale, but trade magazine readers scored higher on the environmental interaction scale and the environmental surveillance scale. The results of

two post hoc data treatments (discriminant analysis and ANOVA) showed that demographic variables appeared largely unrelated to motives as predictors of publication selection.

III-6 Library usage

PRABHA, CHANDRA; BUNGE, JOHN; & RICE, DUANE. Aspects of nonfiction book use: A study of public library patrons. *Library and Information Science Research*, April-June 1988, *10*, 177-193.

Examines two premises underlying the inclusion of nonfiction books in electronic information systems: individuals read nonfiction books to obtain information and generally do not read nonfiction books completely. Interviews were conducted with 347 public library patrons who responded to 29 questions. Only factors pertaining to the study premises and frequency of library visits and of nonfiction borrowing were included in this report. A total of 91.3% were looking for either specific information or for information in roughly defined areas. Of these, 93% considered the information to be very or somewhat important, while 84.4% reported finding the information they sought., Patrons who read all or almost all of the book added up to 47.8%.

III-7 Literacy

STICHT, THOMAS G. Adult literacy education. In Ernest Z. Rothkopf (Ed.) *Review of Research in Education*. Washington, DC: American Educational Research Association, 1988-89, 59-96.

Reviews research on adult literacy in the United States. The purpose of Part I of the study is to present a historical review in which three issues salient over time are identified: the "crises" approach to adult literacy education over the past 80 years, problems in defining and counting illiterates, and issues involved in setting objectives for adult literacy education. Part II provides bibliographic assistance to readers who wish to pursue the study of illiteracy in detail. New directions in adult literacy education and research are presented in Part III. The new directions include competency-basal adult literacy education, intergenerational literacy education for parents and their children, and workplace literacy assessment and program development.

KITZ, WILLIAM R. Adult literacy: A review of the past and a proposal for the future. *Remedial and Special Education*, July/August 1988, *9*(4), 44-50.

Reviews the literature concerned with current practices of teaching reading to children and adults, focusing upon issues related to the instructional methodology used in adult literacy programs. The issues reviewed are instructional issues over which adult educators currently disagree, related research with school-aged children that may help to provide direction for improving instruction in adult literacy programs, and reading and instructional research with children relevant to the field of adult literacy programs. A plan for adult literacy education is suggested.

KAESTLE, CARL F. Literacy and diversity: Themes from a social history of the American reading public. *History of Education Quarterly*, Winter 1988, *28*, 523-549.

Explores two themes concerning diversity and standardization in America: the range of reading materials available over the past century, and the range of literacy skills acquired by different groups. Diversity of reading materials during different periods between 1880 and

1980 was shown by the number of publications, their independence in terms of control and topical variety, and ideological variety. Standardization was shown by more people reading the same materials, consolidation of control in the hands of a few, and a reduction in the diversity of language, topic, ideology. The period 1880 to 1920 witnessed diversity of reading materials before 1900 and standardization later until the 1950s. In the 1960s and 1970s various factors led to diversification of printed materials. Literacy abilities still vary dramatically across racial and ethnic groups. Common culture cannot be shared if literacy abilities are not shared. It was concluded that diversity of content and participation in the production of printed expression is desirable, but diversity of literacy abilities is unwanted and intolerable.

ROSOW, LA VERGNE. Adult illiterates offer unexpected cues into the reading process. *Journal of Reading*, November 1988, *32*, 120-124.

Interviews eight adults enrolled in literacy programs concerning past attitudes and experiences and suggestions for eliminating illiteracy. The most common reason they gave for finding help was self esteem, not economics. Each had experienced pain over the stigma of seeming to be stupid. Childhood abuse, ranging from neglect to physical violence, was reported by each one. Meaning had not been associated with print. Literacy development brought them joy and a sense of power. They could not recall ever hearing stories or being read to at school or in the home. They recommended more work on phonics and words for school reading instruction programs.

KASWORM, CAROL E., & MEDINA, RENE A. Perspectives of literacy in the senior adult years. *Educational Gerontology*, 1989, *15*(1), 65-79.

Reviews research appropriate for literacy in the senior adult years. Alternative perspectives for adult literacy are investigated under the following headings: primary skills state, normative literacy policy state, culture-bearer state, and self-sufficiency state. Guiding principles for adult literacy, not including a schooling or economic life survival context, based upon the research includes: literacy as defined within the person's frame of reference, literacy usage as directly related to the social context of the individual, literacy as defined independently of educational level, literacy as directly related to specific life age context. These principles, it was concluded, highlight the relation of literacy and its usage to the senior adults' frame of reference, social context, self-education activities, and age life context.

REDER, STEPHEN, & GREEN, KAREN REED. Contrasting patterns of literacy in an Alaska fishing village. *International Journal of the Sociology of Language*, 1983, *42*, 9-39.

Traces the development of literacy in Seal Bay, Alaska, in a case study. Two historical strands were introduced by external societies (Russia and the United States) each having a characteristic script, domains of application, and social roles for literacy experts. Over the years these two lines converged but came into conflict at times. When English literacy supplanted the use of Cyrillic script, many of the initial differences disappeared. One of the differences that still remains is the two systems of social meaning which have been related to literacy development: the village, and outside. Literacy played an important part in the development of the community by defining contrasts between social meanings (village and the outside, church and school). Differences in the social roles of literacy experts and modes of socializing technological and functional knowledge of writing are features of the village and outside practices.

ARNOVE, ROBERT F., & GRAFF, HARVEY J. What have national literacy campaigns taught us? *Alberta Journal of Educational Research*, September 1988, *34*, 215-223.

Considers literacy campaigns in historical and comparative perspectives. Lessons learned from an examination of efforts at literacy provisions in more than a dozen countries during the past 400 years include the following: literacy efforts need to last long enough to be effective; local initiative should be mobilized in conjunction with national efforts; there will be a significant minority who will not be reached by centralized authorities; eventually emphasis must be placed on schooling for youth to head off future illiteracy. Literacy must be understood in its various contexts; as social contexts change so do definitions of what constitute adequate literacy skills. Examples of literacy campaigns, neglected populations, and observations about future policies and practices in industrialized countries like Canada are described.

FAGAN, WILLIAM T. Literacy in Canada: A critique of the Southam report. *Alberta Journal of Educational Research*, September 1988, *34*, 224-231.

Critiques two research reports concerned with literacy in Canada. Reasons are given for questioning the Southam News' finding that the rate of illiteracy there is 24%. A companion report, *Broken Words*, contains a series of articles sensationalizing the impact on Canadians of this illiteracy problem. The writer argued that the intelligent use of the data in these two documents requires an understanding of the way in which illiteracy was measured and of the problems involved in their interpretation. Although the validity and reliability of the data in the Southam report can be questioned, two images have been promoted by the reports: the image of Canada as a illiterate nation and the image of the adult Canadian illiterate. It was concluded that some adults need to upgrade their literacy skills but that literacy must be defined in terms of the circumstances (economic, social, geographic) of the people involved and their immediate and/or long term needs. Sensationalism has no place in discussions of literacy issues.

FAGAN, WILLIAM T. A survey of a sample of adult illiterates in an urban area of Canada. *Prospects: Quarterly Review of Education*, 1988, *18*(3), 395-403.

Interviews two groups of low-literate adults, prisoners and mainstream adults, for qualitative data which may explain high attrition rates in literacy programs. The groups were similar in age, intellectual ability, school experiences, and reading achievement. Three groups were identified in the mainstream group: cosmopolitans, locals, and transients. The prisoners were identified as restricted. Mainstream subjects discontinued literacy programs for three reasons: situational (health, funding, travel), institutional (opposition to formal study environment), and dispositional (lack of interest). Similar reasons applied to the prisoners. Three variables in the subjects' lives which determined their decisions to enroll in literacy programs were ideological (practical or personal, concrete or abstract, short or long term goals); psychological (strength of commitment); circumstantial (the right time). When these three variables were combined, the cosmopolitans were optimists; locals, guarded optimists; transients, pessimists; prisoners, fatalists. It was recommended that since literacy programs are expensive, high attrition rates might be alleviated if attention is given to goals, commitments, and circumstances of low-literate enrollees.

TERESTYÉNI, TAMÁS. An inquiry into the role of the written word in Hungarian cultural communication. *Prospects: Quarterly Review of Education*, 1987, *17*(2), 223-232.

Investigates the status of literacy in present day Hungary. Questionnaires were administered to 984 adults, nationally representative in regard to sex, age, education, type and place of residence. Of the 984, 21 were eliminated because they were unable to read or write. The questionnaire was comprised of three kinds of questions: those about the use of different forms of communication, those concerning attitudes to different forms of communication,

and those requiring subjects to correct a written text. Questions were related to the subjects' work and personal living. Nearly one-third of the entire work force are doing work which, apart from the oral mode, do not need or use any of the other modes of communication. Only 13% spotted all 20 spelling or grammar errors. It was concluded that reading and writing played only a small part in the life of a significant segment of the adult Hungarian population. Illiteracy appeared to be related to social and cultural situations, levels of education, modes of living, and technological backwardness in the areas of labor production, social organizations, and unexacting standards.

GABORONE, SAMORA; MUTANYATTA, JOHANNES; & YOUNGMAN, FRANK. The Botswana National Literacy Programme: Progress and prospects. *Prospects: Quarterly Review of Education*, 1988, *18*(3), 351-362.

Evaluates the Botswana National Literacy Program from the standpoints of objectives, strategy, curriculum, organization and management, funding, and follow-up. Immediately after independence, adult literacy work did not receive the emphasis given to it found in many parts of post-colonial Africa. In 1977 two pilot projects which were begun demonstrated the popular demand for literacy and demonstrated the technicalities in meeting this demand. From the analysis it was concluded that without major changes in the economic and political situation, the rate of adult literacy will only gradually improve. The program has been the largest sustained adult education one since independence in 1966. It has been successful in teaching reading, writing, and numeracy to more students than in any other program. Research needs include obtaining better information on which to base improvements.

SUMRA, SULEMAN, & BWATWA, YOSIAH. Adult education, literacy training, and skill upgrading in Tanzania. *Alberta Journal of Educational Research*, September 1988, *34*, 259-268.

Traces steps in the acquisition of literacy in Tanzania and describes the goals sought and the procedures used. The attempts in the last half of the 1940s to eradicate illiteracy and to improve adult education were piecemeal and localized. The turning point occurred in 1971 when the government urged literacy campaigns to be continued at a faster pace. The success of the campaign which was expanded to all regions was evaluated by a national literacy test. Illiteracy dropped from 69% in 1967 to 9.6% in 1986. Literacy achievement is described in levels; those achieving the higher levels may proceed to postliteracy classes. Discussed also in the report were the Folk Development Colleges, two institutions providing correspondence education, national educational campaigns, programs especially for women, and workers' education. It was concluded that Tanzania has shown that, given a committed leadership, a country with limited resources can conduct socially significant projects. Shortcomings in the elimination of illiteracy were noted.

MUTAVA, DOMINIC M. Forty years of struggle against illiteracy: The Zambian case. *Prospects: Quarterly Review of Education*, 1988, *18*(3), 335-349.

Makes a critical analysis of the achievements of and the problems in Zambia's attempts to develop literacy from 1945 to 1986. The Laubach approach prevailed from soon after World War II until after independence in 1971. During this time basic literacy was also introduced, aimed at teaching the three Rs. Despite large enrollments, many problems arose, some related to its administration and organization while others were attributed to the participants. Functional literacy, the next program adopted, began with a pilot program but was later extended to other centers. After theory was taught, students practised what they had learned in agricultural plots. Functional literacy was a two-year program, divided into two stages. After stage II the participants are expected to have acquired knowledge at grade 5 level. Over 54,000 people are estimated to have benefited from the functional literacy program, which has proved to be popular. Because problems remain, the integrated small scale approach is

suggested because it appears to be less costly, simple, manageable, and faster in eradicating illiteracy.

TURRITTIN, JANE. Integrated literacy in Mali. *Comparative Education Review*, February 1989, *33*, 59-76.

Describes the development of literacy in a case study of a village in Mali. Integrated literacy refers to a policy of promoting literacy in conjunction with work-related activities among selected occupational groups in ways that facilitated increases in productivity and income, thus contributing to national economic development. The literacy project was initiated under Unesco's Experimental World Literacy Program and was administered by the Malian Textile Company. The project was successful largely because it enabled villagers to organize a cooperative staffed by literate record keepers. In 1960 only 2% of its citizens were literate in French, the official language, and 10% in Arabic. Literacy classes began in the village in 1970; participation in classes was popular because of the desire of the citizens for any education. Described are the history of literacy in the village, the emergence of a literate ideology, classroom practices, leadership of the teachers, records kept by the learners, and the uses of literacy outside the formal structure.

III-8 History of reading instruction

MONAGHAN, E. JENNIFER. Literacy instruction and gender in Colonial New England. *American Quarterly*, March 1988, *40*, 18-41.

Discusses aspects of literacy acquisition in colonial New England. The report includes an explanation of how and by whom reading and writing were taught, an examination of how the colonists viewed literacy ranging from legal and economic standpoints, and an insight into the relationship between schooling and gender. Literacy was considered by the colonists to be comprised of a definite set of skills, taught in ways both widely accepted and precise. Reading instruction was provided by women; writing, by men. Because reading was considered important for religious, political, and economic reasons, legislation was passed requiring it for all children. Writing was important especially for boys because it was considered a job-related skill. Low social class combined with poverty often correlated with illiteracy in both reading and writing. The colonists were aware of differing levels of literacy. The investigator provided alternative possibilities of answers to questions other researchers have asked and presented a well-documented qualitative approach to early literacy instruction in America.

KLINE, ELINOR; MOORE, DAVID W.; & MOORE, SHARON ARTHUR. Colonel Francis Parker and beginning reading instruction. *Reading Research and Instruction*, Spring 1987, *26*, 141-150.

Examines Francis Parker's views on beginning reading instruction and presents implications for current classroom practice. His basic principle of reading instruction consisted of forming connections: reading with children's interests and backgrounds, with study of content areas, and with modes of expression (speaking, writing, drawing, oral reading). He advocated that word recognition instruction should connect whole words with thoughts and associate words of common spelling patterns. Highlights of Parker's career in the late nineteenth century are included in the report.

LUKE, ALLAN. *Literacy, Textbooks and Ideology: Postwar Literacy Instruction and the Mythology of Dick and Jane*. Philadelphia: The Falmer Press, 1988.

Examines reading instruction in British Columbia from 1945 to the 1960s through the study of the basal series in use. In particular, William S. Gray's Dick and Jane materials are

stressed. The sociocultural and historical context of the immediate post World War II era is studied, the historical development of Gray's series is noted, and the texts are analyzed utilizing a modern story grammar. Attention is directed to how and under what assumptions what was said in the text was made, how it was said, and how it was taught.

WOODWARD, ARTHUR. Taking teaching out of teaching and reading out of learning to read: A historical study of reading textbook teachers' guides, 1920-1980. *Book Research Quarterly*, Spring 1986, *2*(2), 53-73.

Analyzes 10 fifth-grade teachers' manuals accompanying basal readers published by two companies between 1923 and 1978. As a rule, every sixth chapter, story, or lesson was analyzed. Manuals were analyzed for physical characteristics, tests, number of stories and poems, instructional suggestions, professional discussions, reports of current reading research, professional bibliography, student bibliography, scripting, summaries, questions, answers, exercises, scope and sequence. Changes from decade to decade were noted in each of the foregoing. Teachers using manuals from 1920 through 1950 were expected to make professional decisions concerning how to teach reading, but not those using later manuals. Modern basal manuals contain no discussions of philosophy or research related to teaching reading. Suggestions, activities, lesson plans, and exercises reached their peak in 1970, overshadowing the selections themselves. Numerous other differences are discussed.

III-9 History of newspapers

WILKE, JÜRGEN. Foreign news coverage and international news flow over three centuries. *Gazette*, 1987, *39*(3), 147-180.

Analyzes newspapers from four countries, published between the seventeenth and early twentieth centuries, for foreign news coverage and international news flow. Newspapers were selected from the month of November, but not all were analyzed for the same year. France was represented by 4 newspapers; England, 4; United States, 5; and Germany, 2. Overall, the study was based on a total of 22,138 separate news stories. Both foreign news coverage and international news flow grew considerably in the time period studied. For each country, both quantitative and qualitative information is given concerning the proportion of domestic news coverage at different time periods, changes in patterns of reporting, origins of foreign news, balance or imbalance of news flow, and content changes. It was concluded that interest in the foreign press was the motive for the development of the periodical press. With an increase in domestic news publication, greater limits were placed on space available for foreign news which was influenced by domestic factors and external political variables. Some differences were found among the four countries.

MCFARLAND, C.K., & THISTLETHWAITE, ROBERT L. Labor press demands equal education in the age of Jackson. *Journalism Quarterly*, Fall 1988, *65*, 600-608.

Discusses the role newspapers published by labor parties from 1827 to 1850 played in the demand for a free, tax-supported public education system in the United States. They changed apathy to interest by showing laborers the values of education, convinced readers that good citizenship required a knowledge of civic affairs, and encouraged increased participation in economic, political, and social life by all citizens. They contained little propaganda and much useful information. They advocated that no child's education should be neglected because of lack of money. Although the editors were persistent in their demands for educational reform, they often differed about how to achieve that reform. Although some of their ideas were directed toward self-interests of a small group of people, their constant attention to educational needs was in large measure responsible for the American free school system.

RILEY, SAM G., & SELNOW, GARY. Southern magazine publishing, 1764-1984. *Journalism Quarterly*, Winter 1988, *65*, 898-901.

Presents a typology of Southern periodicals published between 1764 and 1984 by type, date of origin, and place. The 5,745 titles of magazines were categorized under four headings: academic or professional (1,156), trade or technical (1,288), leisure oriented or consumer general interest (1, 251), and other (2,050). Texas was the most active in magazine publication; Arkansas, the least. Few periodicals were started in the South before 1800, the first being *The North Carolina Magazine, or Universal Intelligence* begun in 1764 and 1765. Growth in periodical starts were seen in various periods. It was concluded that the Southern periodicals showed a diverse, sophisticated, and changing culture in the time period studied.

NORD, DAVID PAUL. A republican literature: A study of magazine reading and readers in late eighteenth-century New York. *American Quarterly*, March 1988, *40*, 42-64.

Studies both the readership and the content of *The New-York Magazine* in 1790 and argues that magazine reading was a more broadly democratic activity than was usually supposed. A list of 370 subscribers was found in this volume, 298 being identified as New York City residents. Of these, information concerning occupations and street addresses located about 265. Data from this subscriber census were compared with a random sample of 400 entries in *The New-York Directory and Register*, 1791-1792. While 50% of the readers were professionals, only 15% of the random sample were. The proportions at the top and bottom of the occupational scale for the two groups are quite different, but the middle ranges are more alike. Most of the elite readers were merchants. The magazine was highly eclectic in subject matter, in style, and in source of material. Although much content was concerned with politics, religion, and science, the largest proportion was termed manners and morals. The columns, serials, and materials aimed toward women were identified. Public virtue, suspicion of luxury, and the power and democracy of knowledge were common themes.

MINOWA, SHIGEO. Translation as international scholarly communication. *Scholarly Publishing*, October 1986, *18*, 33-43.

Reviews the publication of translations in three successive periods: the medieval, the early modern, and the present. The flow of translations between various languages began to increase in diversity from the thirteenth century on. Translations were made from Arabic into Spanish, Portuguese, and Latin, while Latin began to be translated into modern western European languages, including Italian, French, and Dutch. The publication of translations accounted for a rather high proportion of the total books published from 1870 through 1890. The present age seems to be characterized by communication of more fragmentary and nonsystematic information, marking the beginning of an information-oriented age. Translations have been undertaken by people enthusiastic to learn, not by sources of knowledge in an attempt to teach or improve something. An explanation of how different national environments affect translation was given.

KUGELMASS, JACK, & SHANDLER, JEFFREY. Revolutions in print: Jewish publishing under the Tsars and the Soviets. *Book Research Quarterly*, Summer 1988, *24*(2), 58-70.

Traces the paradoxical history of Jewish publishing in Russia from the time of the tsars in the 1800s to the present time. Many of the transformations of East European Jewry were found on the printed page in books, pamphlets, journals, newspapers, and posters written in Yiddish often in a hostile environment and almost always under censorship rules. These documents provide first-hand knowledge of Jewish life in Russia over two centuries. These documents show the vitality of Russian Jews and their impact on the politics, culture,

and the language of modern Jewry. The report includes restrictions on Jewish publishing at various times, the multi-lingual tradition (Hebrew, Aramaic, Yiddish), important writers, creation of Soviet Yiddish culture following the October Revolution, the purges of Stalin, the absence of Yiddish print for 11 years, and new official and underground Jewish publications. At the present time, Russian Jewish creativity is carried on largely outside Russia by emigrants in other countries.

III-10 Newspaper publication

LACY, STEPHEN. The impact of intercity competition on daily newspaper content. *Journalism Quarterly*, Summer 1988, *65*, 399-406.

Examines the impact of intercity newspaper competition on the content of daily newspapers. Rosse's umbrella competition theory (four layers of competition: large metropolitan daily newspapers, satellite daily newspapers, suburban dailies, weekly newspapers and shoppers) was tested. A constructed week for November, 1984, was randomly determined for 114 newspapers with news sections and editorial pages being analyzed. Regression analyses and t-tests were used to test the hypotheses. As intensity of umbrella competition increased, the amount of space devoted to news, editorial matters, and local news increased. Overall, there were some differences when the various layers of newspapers were compared, but the differences were not as clear-cut and consistent as the umbrella hypothesis would indicate. No significant differences in the percentage of editorial space were found among the layers.

MARTIN, SHANNON ROSSI. Proximity of event as factor in selection of news sources. *Journalism Quarterly*, Winter 1988, *65*, 986-989, 1043.

Examines geographical proximity as a contributing factor in source selection for news events. A content analysis of news about teacher contract negotiations in two Kentucky counties as found in three newspapers used sources cited as coding units. These sources were categorized under 10 headings. Interviews were conducted with editors and reporters for familiarity with the community and sources. Both the newspapers' and the staff's residences' proximity to the events were determined. Data were collected for two study years, 1984 for one county and 1987 for the other. The results for both years show that the news organization closest to the event community tends to publish more stories with a wider variety and a greater number of sources per story. The proximity of the newspaper to the event can be mitigated or enhanced by a staff member who lives in the community.

HANKINS, SARAH RUSSELL. Freedom and constraint in objective local news coverage. *Newspaper Research Journal*, Summer 1988, *9*(4), 85-97.

Investigates how reporting of the 1983 Denver mayoral election may have been influenced by reporters' creativity and advocacy freedom versus ideological and economic constraints of the newspaper. The Freedom/Constraints Interaction Model was developed and used as a basis of this case study. Objectivity in campaign news stories was investigated by content analysis. The coverage in 84 issues of two newspapers written between May 18 and June 21, 1983, by two reporters was analyzed by the numbers of unsubstantiated conclusions about candidates' leadership qualities, reporters' personal opinions about the issues, the kinds of verbs used, and the degree to which reporters analyzed the candidates and issues. Reporters and editors in open-ended interviews explained how freedom and constraint played a part in their newspaper coverage. It was concluded that individual advocacy and freedom within news organizations and the elements of constraint in running a newspaper are in constant tension with newspaper reporting's objective ideal.

NIEBAUER, JR., WALTER E.; LACY, STEPHEN; BERNSTEIN, JAMES M.; & LAU, TUEN-YU. Central city market structure's impact on suburban newspaper circulation. *Journalism Quarterly*, Fall 1988, *65*, 726-732.

Explores the relationship of the existence and circulation of weekly/semiweekly/daily suburban newspapers with central city newspaper markets. The sample included 900 suburban communities, 300 randomly selected from metropolitan areas representing each of three different central market structures. The dependent variables were the existence of a weekly or daily newspaper in suburban areas, the circulation of these papers, and whether they were free or paid. Data were gathered for other variables that might influence circulation or existence of newspapers. Regression analysis was used to evaluate the impact of central market structure on suburban newspaper circulation. Discriminant analysis tested the existence of weeklies and dailies in the suburbs. It was found that the central city newspaper structure did not influence extensively either the existence of suburban newspapers or their circulation. The independent variable that made the greatest contribution to the discriminant function is the population of the suburbs where the newspapers are located both for circulation and existence of a newspaper.

EVERETT, STEPHEN E., & EVERETT, GEORGE A. The blurring of headline sizes under new editing technology. *Journalism Quarterly*, Fall 1988, *65*, 627-633, 654.

Questions how readers use type size differences to assess the relative importance of news events. A test booklet was constructed containing 32 pairs of single-deck headlines, four pairs per 8½x14 horizontal page. For each pair the 68 undergraduate subjects were asked to check one of three boxes to indicate that the headline on the left or the one on the right was larger or that the two were the same size. To test the size differences, typeface, page placement, text, and size range variables were collapsed, constructing indices based on eight items each for 4 degrees of difference. Typeface, left-right placement, text, and size range were controlled in the design of the instrument to assure the validity of these four indices. Differences in readers' performances were tested statistically by the paired-comparison t-test. As hypothesized, readers had increasing difficulty in correctly identifying differences as they progressed from 6 points to 4 points to 2 points. No significant differences in judging headline size differences were found when different texts, type, or page placement were used.

BUSTERNA, JOHN C. Trends in daily newspaper ownership. *Journalism Quarterly*, Winter 1988, *65*, 831-838.

Updates trends in local newspaper ownership concerning one-publisher cities, their proportion of total daily circulation, and the status of joint operations and joint monopolies. Circulation and ownership information were obtained for each newspaper listed in the 1987 *Editor and Publisher International Yearbook*. Continuing declines were found in the numbers of competing daily newspaper markets, joint monopolies, and independent newspapers. Other local media are poor substitutes for daily newspaper news, opinion, and advertising, since they do not provide much competition to the marketplace as other daily newspapers did in the past. The proportion of total daily circulation controlled by the larger national chains has shown significant increases in recent years.

YU, JINGLU. The abortive 1956 reform of Chinese journalism. *Journalism Quarterly*, Summer 1988, *65*, 328-334.

Shows how Mao Jedong encouraged reform of Chinese journalism in 1956 but revoked it in mid 1957. At the time of encouragement for openness in the fields of art and science, Chinese journalists thought it was also time for a change in journalism. The first period of reform emphasized improving journalistic practices, which were stated in a reform

announcement in the leading party organ, followed by the second period that emphasized theoretical issues. After collecting criticisms and suggestions from government institutions, local newspapers, and readers, the *People's Daily* submitted its reform plan to the Central Party Committee for approval. Many changes were made in newspapers showing an effort to break away from stilted writing and to diversify and broaden content and style. Circulation soared in many newspapers. Mao and the party encouraged nonparty members to criticize the bureaucratic way of party work. At this time issues concerning journalistic practice were debated in public. Some prominent scholars criticized the party, as did intellectuals in art, literature, publishing, the movie industry, and sports. A sudden change came when party officials decided that journalistic reforms had gone too far.

III-11 History of magazines

MIRALDI, ROBERT. Scaring off the muckrakers with the threat of libel. *Journalism Quarterly*, Fall 1988, *65*, 609-614.

Proposes that libel may have been a contributing factor in the decline of muckraking during the nation's Progressive Era. This study reviewed various instances where libel suits were filed against muckraking writers and magazines and showed how the threat of lawsuits hung over muckrakers as they exposed injustice and corruption. Muckraking declined from 1906 until the beginning of World War I. Some believed that the joining of business and political conservatives brought a halt to muckraking, but the threat of libel should also be considered as a cause. Several examples were given of writers (such as William Allen White and Lincoln Steffens) who feared the possibility of lawsuits because of some of their writing. Toward the end of the nineteenth century, state courts heard a larger number of all types of libel cases with the number of criminal libel cases reaching an all-time high between 1896 and 1906.

III-12 Magazine publication

BERKMAN, DAVE. Chauvinism, populism and pre-war TV: Two views as seen by the press, 1937-42. *Journalism Quarterly*, Summer 1988, *65*, 347-351.

Explores reasons given by well known magazines and newspapers for television being used by people in other countries, especially England, before Americans could use it. All magazine articles on television listed in the *Reader's Guide to Periodical Literature* and the Sunday editions of the New York *Times* in the years 1937 to mid-1942 were read. Those that addressed the matter put forth two different points of view: one was patriotic, that the American free enterprise system was superior; the second, the populist willingness to accept the possibility of corporate conspiracy, especially among those in the radio profession who did not want to be subordinated to television. The investigator pointed out that neither reason given was correct since both the industry and FCC feared if America locked into a set of TV standards at an early stage, it would result in a freezing of standards. It was concluded that the explanations reported to the public about America's early television laggardness showed how the press colored the news.

CANNON, HUGH M., & WILLIAMS, DAVID L. Toward a hierarchical taxonomy of magazine readership. *Journal of Advertising*, 1988, *17*(1), 15-25.

Replicates and extends a taxonomy for women's magazines by using hierarchical factor analysis with a different set of data from a similar period of time. The data came from a 1977 *Target Group Index* which consisted of 26,818 interviews with adults in 48 contiguous states. Magazine readership was measured by the recent-reading technique. The result is a

measure of average-issue audience. Adjustments were made in the original taxonomy to account for magazines that appeared to be misgrouped. A factor analysis using the revised taxonomy was followed by two confirmatory factor analyses. These were then followed by a hierarchical analysis, collapsing the original 10 factors into 7, then 5, higher-order factors. The important finding was that classifications of women's magazines were clearly related to each other.

III-13 Publication and history of juvenile literature

BRUCE, BERTRAM. A new point of view on children's stories. In Richard C. Anderson, Jean Osborn, & Robert J. Tierney (Eds.) *Learning to Read in American Schools: Basal Readers and Content Texts*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1984, 153-174.

Presents the results of coding of types of conflict, inside view, and point of view in a sample of basal reader stories and children's trade books. The sample of 200 texts was drawn randomly from three basal reading series and a collection of trade books. Each group was represented by 50 books, these being subdivided by grade level, 10 from each of grades 1 through 5. Each story was rated for the overall intensity of environmental, interpersonal, and internal conflicts as well as for inside view to indicate insight into any character's thoughts and feelings. For point of view, stories were classified by person and engagement (observer, unengaged narrator, engaged narrator, and in-effect narrator). The coding revealed a distribution of types of conflict, inside view, and point of view that may tend to increase the distance from the text that a reader feels and may provide inadequate preparation for the range of stories skilled readers are likely to encounter later. Stories with no conflicts were almost entirely at the lower grade level. The most common point of view type was the observer. Results were given in percentages.

STEPHENS, BONNIE. Taking the second step in reading. *The Reading Teacher*, April 1989, *42*, 584-590.

Compares traits and experiences found in research which characterize children who have overcome life's problems with characters and plots in children's books. In this survey, traits of characters from five Newbery or honor books from each 10-year period from 1927 to 1987 and 14 favorite children's books were compared with those found in successful children. The 44 books with the traits found in the characters are listed in the report. Brief explanations are given for selected books.

DEANE, PAUL. Black characters in children's fiction series since 1968. *Journal of Negro Education*, Spring 1989, *58*, 153-162.

Explores the manner in which blacks are portrayed in juvenile fiction series. Until 1950 black people were the consistent victims and were presented in an almost unvaryingly negative light. They spoke in dialect, were sources of humor, were employed in menial positions, were granted inferior social status, and were targets of pejorative terms. Over the last two decades, especially in the last seven or eight years, the picture has changed. The original editions of many series have been edited or rewritten to remove stereotypical images and language. A greater degree of realism is found in the more recent books. In some books blacks have been eliminated altogether. Only one series investigated presented a strong black hero.

MOORE, TIMOTHY E., & MAE, REET. Who dies and who cries: Death and bereavement in children's literature. *Journal of Communications*, Autumn 1987, *37*(4), 52-64.

Analyzes 52 problem novels published between 1970 and 1983 and intended for children between the ages of 10 and 14 for their treatment of death. Since in three of the 52 books a central character could not be identified, these titles were omitted from most of the analysis. The coding focused on three areas: the central character in the book, the death, and the effect of the death on the central character. Both the deceased and the bereaved characters were identified by age, sex, socioeconomic status, and ethnic origin. The cause of death was classified as illness, accident, old age, suicide, murder, or other. The nature of the mourning ritual was noted. The numerous findings showed much variation in the portrayal of death and in their depictions of its consequences. It was concluded that these books were more likely to increase the reader's anxiety about death than to facilitate its confrontation and that they were unlikely to provide a genuine understanding of death and its meaning.

JOELS, ROSIE WEBB, & ANDERSON, BETTY. Sexism in award-winning children's books? Yes! *Kansas Journal of Reading*, Spring 1989, *5*, 73-79.

Investigates sexism in award-winning children's books from England (Carnegie Medal) and from the United States (Newbery Award) published over a period of 61 years. Sexism was defined as the portrayal of males and females having unequal opportunities and being restricted in their abilities, knowledge, or emotions. A quantitative analysis was not used. Eleven of 20 early published books (prior to 1964) had female main characters; 3, both male and female main characters, and 2, male main characters with strong, pro-active female characters. In brief case studies these characters were described.

NIMON, MAUREEN. From faith to good fellowship: Sunday school magazines in the late nineteenth century. *Children's Literature in Education*, Winter 1988, *19*, 242-251.

Traces the changes in Sunday school magazines from the mid-1800s to the present time. In the 1860s the role of these magazines was to further religious values and to reform society. By the end of the century they had changed so much as to be scarcely distinguishable from other children's magazines of the time. They continued to contain some Christian instruction, but their emphasis by then was recreational. Original dominant themes became modified; the nature of rewards and punishment changed as did the forms of narratives. A shift occurred in rationales used to justify certain kinds of behavior. The justification of good behavior in the final decades was likely to be social and secular rather than religious. The foregoing changes were found in *Children's Friend* and *Child's Companion*, both published in England.

OSIOBE, STEPHEN A.; OSIOBE, ANN E.; & OKOH, J.D. Theme and illustrations as correlates of literature preferences among Nigerian primary school pupils. *Library Review*, 1989, *38*(1), 45-52.

Assesses Nigerian primary pupils' preferences for local themes and illustrations in children's books. In a stratified sample 216 children were interviewed in four locations in Port Harcourt City. They indicated three books which they had read or were read to them and which they enjoyed, citing what they liked best about the books. The circulation records of 50 alien titles and 50 local children's titles were tapped. Of the 309 books named, 135 were local and 174 alien titles. The random sample of the circulation records indicated that local literature with local themes is preferred. More books by alien authors are available since children's literature written by Nigerian authors is a relatively recent development, dating back to the early days of post-independence in the 1960s.

III-14 Censorship and freedom of the press

MERRILL, JOHN C. Inclination of nations to control press and attitudes on professionalization. *Journalism Quarterly,* Winter 1988, *65,* 839-844.

Determines the basic inclination to control the press on the part of governments of various ideologies in different parts of the world. More than 60 interviews were conducted during the first five months of 1987 with spokespersons from 58 countries. The interviews concentrated on six main factors related to attitudes about control of the press: in-country licensing of journalists, international licensing, journalistic identification or accreditation, university education for journalists, in-country code of ethics, international code of ethics. Each factor was given a score reflecting the strength of attitude of that factor; the scores were added to form the Control-Inclination Index. The region of the world most inclined to control the press is the Middle East followed by Latin America, Eastern Europe, and Africa. Least inclined to control the press of all the world regions was Western Europe and North America (United States and Canada).

SALWEN, MICHAEL B., & GARRISON, BRUCE. Press freedom and development: U.S. and Latin American views. *Journalism Quarterly,* Spring 1989, *66,* 87-92, 168.

Compares U.S., Latin American, and Caribbean editors in terms of their evaluations of world peace problems under two broad dimensions: freedom of the press and development (an actively involved press in nation-building). A total of 118 subjects evaluated the importance of each of 42 world press problems. Questionnaires were sent to editors of small and medium circulation papers and editors of the largest circulation papers in each state, and to 53 editors of Latin American/Caribbean regions. The 42 items were analyzed using a varimax factor analysis rotation procedure with four factors emerging: government pressure on the press (29.1% of variance), development (11.7%), news factor (6.2%), and training (4.7%). Four separate one-way ANOVAs were computed to determine if the different groups of subjects differed in their evaluations of the four factors. All editors regarded government pressure on the press to be an important world press problem. Latin American editors evaluated development as significantly more important than all U.S. editors did.

DICKSON, THOMAS V. Attitudes of high school principals about press freedom after Hazelwood. *Journalism Quarterly,* Spring 1989, *66,* 169-173.

Investigates high school principals' attitudes towards censorship of student newspapers. A three-page questionnaire with 25 questions was completed by 74 Missouri principals. The majority (61.5%) considered these newspapers to be open forums. Chi-square tests found no statistically significant difference in attitudes based upon school size. The majority stated they had never kept anything from being published although they would censor under some circumstances. They would censor articles in several subject areas if they were aware of questionable subject matter. Most expected newspaper advisors to notify them of anything that might be objectionable.

CARPENTER, RAY L. Censorship, church, and sex. *Library Journal,* October 15, 1988, *113*(17), 27-28.

Compares attitudes on various issues by 497 adults who said either libraries should not remove books critical of churches and religion (70%-defenders) or these books should be removed (censors). The defenders were more likely than the censors to be better informed

about state obscenity laws and to support freedom of access to obscene materials. The defenders against censorship were middle class, well-educated, and generally tolerant. Both groups see pornography as a violation of women's civil rights; most attend religious services once or more a month, and half of both groups are "born again."

III-15 Effects of reading

COUNTS, TIM. Editorial influence on GOP vote in the 1948 presidential election. *Journalism Quarterly*, Spring 1989, *66*, 177-181.

Asks if there is an association between vote percentages for the 1948 Republican presidential candidate and endorsements for him and if the known correlates of the Republican percentage of votes relate to Republican editorial support. The data used came from 86 counties and around 90 of the biggest cities and included the Republican percentage of the total votes in the county (dependent variable) and type of endorsement (independent variable). Income, education, migration, party identification, and region of the country were the control variables. Data were derived from *Editor and Publisher International Yearbook*, *Editor and Publisher*, and *The World Almanac and Book of Facts*. Pearson product correlation coefficients and a stepwise regression procedure were used to test the relationships. Endorsements showed a strong association with the dependent variable and all of the control variables.

LUTTBEG, NORMAN R. Role of newspaper coverage and political ads in local elections. *Journalism Quarterly, Winter 1988, 65*, 881-888, 897.

Seeks to determine differences in local newspaper coverage of municipal and school board elections and to assess how these differences affect these contests. The content of 20 Texas metropolitan newspapers was analyzed for six days prior to the election, election day, and the following day. Eight variables for each newspaper were measured. A factor analysis was conducted in which both newspaper coverage and local electoral competition were correlated. The strongest loading showed that there was extensive use of political advertising by the numerous candidates when there is much voluntary retirement of city council members. Neither quality nor quantity of newspaper coverage was much involved. The success or failure of incumbents to win reelection was largely unrelated to local newspaper coverage for city councils, but the patterns for school politics proved substantially different. Apparently local newspapers can raise consciousness of municipal and school board elections and can increase voter turnout.

SMITH, KIM A. Effects of newspaper coverage on community issue concerns and local government evaluations. *Communication Research*, August 1987, *14*, 379-395.

Examines causal relationships among newspaper coverage of community issues, public concerns about them, and evaluations of related government services. In a series of eight surveys, between 400 and 472 subjects age 15 and older completed questionnaires administered by professional interviewers. They were asked to name three important community problems and to evaluate local government services related to 19 issues. Media coverage of the issues was measured by a content analysis of a random sample of 236 editions of one metropolitan newspaper during the eight-year period of the surveys. The results showed that the amount of newspaper coverage was related to higher levels of concern about community issues and poorer evaluations of government services. A time-series analysis indicated a two-way effect between newspaper coverage and public concerns about the issues. Newspaper coverage of issues had a one-way effect on evaluations of government services; evaluations had a one-way effect on concerns.

SMITH, KIM A. Effects of coverage on neighborhood and community concerns. *Newspaper Research Journal*, Summer 1988, *9*(4), 35-47.

Examines the relation between newspaper coverage and concerns about community versus neighborhood issues. Data related to these issues came from a secondary analysis of six surveys based on a probability sample with random starts of approximately 471 persons, age 15 or older. Home interviews were conducted with the subjects. The coverage of community and neighborhood issues in two newspapers was measured. Little variation was found in the rankings of the community-wide issues across the six surveys, but public concern about neighborhood issues varied considerably across the six time periods. Newspaper coverage was more strongly related to community than neighborhood issues, although the relation between issue concerns and coverage varied depending on the issue. The results provided no clear-cut evidence that newspaper coverage would affect community or neighborhood issues.

III-16 Reaction to printed materials

VISWANATH, KASISOMAYAJULA. International news in U.S. media: Perceptions of foreign students. *Journalism Quarterly*, Winter 1988, *65*, 952-959.

Surveys 92 college students from 11 European and Asian countries concerning their perceptions of imbalance in international news in the United States media and the variables influencing these perceptions. Data were gathered through a questionnaire on students' media exposure in the United States, their U.S. contact prior to their arrival, attitudes towards the U.S., and perceptions of relations (political, economic) between the U.S. and their native countries. Items were summed to form indices of expectations of news coverage, perceived power status, sociability, and attitudes towards the United States. Perceptions of international news coverage, the main dependent variable, were measured by inadequacy, bias, and inaccuracy as shown by answers to a series of statements about foreign news coverage. T-tests and Pearson correlation coefficients were used to evaluate the results. Both European and Asian students found bias in world news coverage in the United States media, but those who were more Western oriented were more critical. Europeans were more critical than Asians. Student attitudes towards the United States appeared to be among the best predictors of their perceptions of foreign news coverage.

COHEN, JEREMY; MUTZ, DIANA; NASS, CLIFFORD; & MASON, LAURIE. Experimental test of some notions of the fact/opinion distinction in libel. *Journalism Quarterly*, Spring 1989, *66*, 11-17, 247.

Investigates how readers distinguish fact from opinion in a defamatory context and differences in impact on readers based upon these perceptions of whether a report is fact or opinion. Fifty-seven college students read a mock two-page newspaper comprising a front page and an editorial page. Each page had two articles, one with a byline and one without a byline. Four forms of the newspaper were prepared. Each contained the same four articles, with each article being critical of a person or an issue. The design of the study was a two-by-two Latin square, with each article appearing with a different combination of environment and byline for each of the four forms. Subjects underlined phrases which they considered to be opinion. They rated each article as being fact or opinion as a whole on a 19-point scale and their impressions of the people described. Analyses of variance were done for the relation between page environment and byline and the total number of underlined phrases. There was a highly significant difference ($p < .001$) with articles on the front page seen as having fewer opinion statements than articles on the opinion page. There was no effect for byline nor a significant interaction effect.

LOGAN, ROBERT A., & KERNS, ROBERT L. Evolving mass and news media concepts: A Q study of Caribbean communicators. *Mass Communication Review*, 1985, *12*(1,2, & 3), 2-10.

Examines, in the Caribbean, patterns of attitudes about western and developmental philosophies of news media. Q surveys were developed from which emerged three dimensions: Western news media concepts, developmental news media concepts, and policy-based utilization strategies (or specific efforts to improve local media). The 36 subjects were selected to represent a cross section of Caribbean journalists, public relations practitioners, government officials, and mass communication students from five Caribbean nations. Their individual rankings of 30 statements were correlated, and three factors were derived from using centroid factor analysis, subject to a varimax rotation. The three factors demonstrated a pluralistic adaptation of western and developmental concepts, although there were significant differences in individual factor orientations. A relation between professional roles and assignment to factors was found. Descriptions of each factor and similarities and differences among the factors are included.

III-17 Research techniques

HAVICE, MICHAEL. How response rates compare for human and digitized phone surveys. *Journalism Quarterly*, Spring 1989, *66*, 137-142.

Investigates whether electronic polling technology is a technique capable of performing as well as human callers. Techniques in three studies were compared. A cable TV and local TV news studies were conducted using human interviewers; a radio listener study was administered by an electronic polling device. Each study used a telephone poll conducted during the same month in the same locality. The results showed that human interviewers completed more interviews as a percentage of numbers dialed than the electronic pooling device, although the electronic system made as many contacts as people did. The electronic device demonstrated its ability to make more calls than a human caller during the same calling period and to complete questionnaires and collect data at a cost below that for human services. An important finding was that the electronic device study was as representative of the population (age, sex) as the other studies were.

CHEW, FIONA. A within-message analysis of communication behavior. *Journalism Quarterly*, Fall 1988, *65*, 634-641.

Uses a signalled stopping technique to observe what is going on as readers read, not after they finish a selection. Stops were reader-defined with the stop showing a change from one communication activity to another. Reasons were given for stopping: invoked convention (punctuation), behavioral antecedents (cognitive conditions that led to stopping), and behavioral consequents (steps taken after stopping). Three forms of presenting material (generic, modal, variable) and controversial material were used in this research. The 185 college subjects were given one of nine versions of test materials with the directions that they were to signal with a slash and the relevant letter when they experienced one of four conditions: drawing a blank, uncertainty because of two or more alternative points, moving off course from a prior point, and taking exception to a point. Differences were tested by analysis of variance. It was found that subjects took exception to and showed a low tolerance for uncertainty in controversial messages. No statistical differences were found among the forms. Subjects drew blanks when they encountered the unfamiliar. Other findings were reported concerning the technique of stopping.

MEYER, PHILIP. Defining and measuring credibility of newspapers: Developing an index. *Journalism Quarterly*, Fall 1988, *65*, 567-574, 588.

Explains a series of investigations aimed towards defining and measuring credibility of newspapers. Two dimensions were researched: believability and community affiliation. (A newspaper can be believed but alienated if it advocates positions strongly opposed by a majority of citizens.) This series of studies replicated and added to a previous factor analysis study by placing variables in different positions and submitting them to 83 journalism students and later to 310 readers in a general population. The experiment presented evidence of the ease with which responses can create an artifact when a concept is subtle. Items were dropped, and new factor analyses were performed. Factor 1 items were closely related to credibility as believability, while Factor 2 items were related to affiliation with the community. Questions concerning future use of the index and needed research were discussed.

JACOBSON, THOMAS. Research activity of magazine publishers. *Journalism Quarterly*, Summer 1988, *65*, 511-514.

Characterizes the body of research activity conducted by the magazine publishing industry. Questionnaires including topics identified by company executives and researchers were mailed to 1,385 magazine editors, publishers, and researchers. The 282 responses from individuals with direct responsibility to only one magazine are reported in this study. Of these, 222 (79%) use research, including data generated in-house or data purchased from outside sources. Consumer magazines (89%) were somewhat more deeply involved in research than business magazines (70%). The most common type of study was the reader profile (79%), used by consumer magazines (87%) and business magazines (70%). While both groups employed a wide range of kinds of studies, the range of methodologies varied far less and included telephone, mail, and in-person interviews, focus and panel groups.

IV. Physiology and psychology of reading

IV-1 Physiology of reading

HULME, CHARLES. The implausibility of low-level visual deficits as a cause of children's reading difficulties. *Cognitive Neuropsychology*, 1988, *5*(3), 369-374.

Counters the arguments that a low-level visual deficit may be a cause of reading problems in a large number of retarded readers. It is noted that such arguments are based on correlational findings. The author contends that low-level visual deficits are correlates of reading problems, and probably irrelevant correlates, but would seem to be implausible as causes.

LUDLAM, WILLIAM M., & LUDLAM, DIANA EASTBURN. Effects of prism-induced, accommodative convergence stress on reading comprehension test scores. *Journal of the American Optometric Association*, June 1988, *59*, 440-445.

Checks the effect on reading comprehension of prism-induced, accommodative convergence stress. Subjects were 48 optometry students, all determined to be functionally binocular at reading distance, non-presbyopic, and symptom-free. Subjects were each presented with four sets of reading passages each followed by 20 multiple-choice comprehension questions. Subjects wore either base-in prism or plano lenses in spectacle form. There was a statistically significant lower comprehension rate with the base-in prism lenses in place. The effect was greater for longer passages followed by a greater number of questions to be answered.

GARZIA, RALPH P.; NICHOLSON, STEVEN B.; GAINES, CARRIE S.; MURPHY, MARY A.; KRAMER, ANDREW; & POTTS, JUDITH. Effects of nearpoint visual stress on

psycholinguistic processing in reading. *Journal of the American Optometric Association*, January 1989, *60*, 38-44.

Investigates the effects of nearpoint visual stress upon reading comprehension performance. Subjects were 19 third-year optometry students, all with visual acuity of or vision correctable to 6/6 at both distance and near-point. Five passages taken from a popular book were prepared in cloze format with 50 deletions in each passage. Binocular stress was simulated by -2.00 D lenses. Time and accuracy on the cloze tests were obtained for prestressed and stressed trials. Time to complete the task was reduced significantly under the stress condition, but no significant changes in overall accuracy of responses were obtained.

NEWMAN, S.; KARLE, H.; WADSWORTH, J.F.: ARCHER, R.; & HOCKLY, R. Ocular dominance and reading and spelling reassessed. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 542-543.

Computes the relation between a new test of ocular dominance and reading and spelling ability for 323 children with a mean age of 8.5 years. Ocular dominance was assessed with a modified form of the *Dunlop Test*; spelling with the *Schonell Graded Word Spelling Test*; and reading, with the *Schonell Graded Word Reading Test* and the NARA. WISC-Rs were also given. The Dunlop was not found to be associated with specific reading or spelling difficulties.

STOLZBERG, MARK E.; RITTY, J. MICHAEL; COHEN, ALLEN; & LIEBERMAN, STEVEN. Effects of ocular functioning and time upon reading proficiency. *Journal of the American Optometric Association*, February 1989, *60*, 122-126.

Hypothesizes that children with fusional and/or accommodative abnormalities will produce more errors on a maze-type reading test and will take longer to complete each segment of the test than children with normal vision. A total of 450 children in grades 4, 5, and 6 were screened with the *New York State Optometric Association* (NYSOA) *Vision Screening Battery*. Of that group, 45 who had normal vision and 32 who had abnormal vision were also given a maze-type reading test developed for the study. The abnormal vision group made significantly more errors on the reading test than did children with normal vision. Additionally, the abnormal vision group made progressively more errors at the end of each of the three segments of the reading test, but the differences between groups were not statistically significant.

KENNEDY, ALAN, & MURRAY, WAYNE S. Spatial coordinates and reading: Comments on Monk (1985). *Quarterly Journal of Experimental Psychology*, November 1987, *39A*, 649-656.

Examines the question of the accuracy of large regressive saccades. Subjects were 12 university students. Subjects read 60 sentences on a computer screen. Each sentence was followed by a target word which either appeared in the sentence or was a close synonym of a word in the sentence. The task was to respond with a "yes" or "no" as to whether or not the actual word occurred in the sentence. The target word occurred equally in five zones within the sentence, zones being the first through fifth groups of 12 character positions in the sentences. Decision times did not vary over the first four zones, but "yes" decisions were significantly faster than "no" decisions in the fifth zone. Most regressive saccades found their target accurately. Errors for the location of regressions did not differ for short or long regressions.

KOWLER, EILEEN, & ANTON, STANLEY. Reading twisted text: Implications for the role of saccades. *Vision Research*, 1987, *27*(1), 45-60.

Seeks to discover whether the time required to program saccades during reading depends on the spatial pattern of saccades. Right-eye movements of two adults were tracked as they read text in which the spatial pattern of saccades was varied by reversing the order of letters in a word, the order of words in a line, or both. To distinguish visual from oculomotor influences, in some conditions letters were rotated 180° to produce text in which the customary visual appearance of words was destroyed while the order of words and letters remained the same. The directional pattern of saccades had only modest effects on reading rate under instructions to read accurately. Size of saccades had large effects on rate. Alterations to the customary visual appearance of words slowed reading as saccades were made to look at every letter or every alternate letter, thereby causing more saccades to be programmed. Programming time increased when saccade size fell below 30-60'. It was concluded that valid inferences about the duration of visual or cognitive processes cannot be made from the temporal pattern of saccades unless the relative difficulty and time required to program different spatial patterns of saccades is accounted for.

NETCHINE, S.; PUGH, A.K.: & GUIHOU, M-C. The organization of binocular vision in conjunction with head movement in French and English readers of 9 and 10 years. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements; From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 333-342.

Records horizontal eye movements and head movements during reading of 17 French children and 16 British children, all aged 9 and 10 years. Children read the same three short passages in the appropriate language while their eye and head movements were monitored. French children made significantly greater use of the head than did British children. Head movement was found to be associated with poorer comprehension in the French group.

BRADSHAW, JOHN L., & BRADSHAW, JUDY A. Reading mirror-reversed text: Sinistrals really are inferior. *Brain and Language*, January 1988, *33*, 189-192.

Compares 24 dextrals and 24 sinistrals on their ability to read geometrically transformed texts: normal, right-to-left letter order, left-right mirror reversed letters with preserved letter order, right-to-left letter order with left-right mirror reversed letters, up-down inversion without altering letter sequence, and total inverted text. Subjects were university students whose handedness was determined only in terms of preferred hand for writing. Speed and accuracy measures were taken as subjects read orally. Sinistrals were found to be inferior to dextrals.

FLYNN, JANE M., & DEERING, WILLIAM M. Subtypes of dyslexia: investigation of Boder's system using quantitative neurophysiology. *Developmental Medicine and Child Neurology*, April 1989, *31*, 215-223.

Reports two studies investigating whether electrophysiological evidence of dyslexic subgroups could be demonstrated by analysis of brainwave activation patterns during cognitive tasks. Children were classified as dysphonetic (auditory-phonetic disabilities), dyseidetic (visual spatial disabilities), or mixed. Study 1 subjects were 21 dyslexic children, ages 7 to 10, and six controls. On three of six cognitive tasks, there were significant differences between the dyslexic subgroups as well as between the dyslexics and controls. Study 2 utilized 33 eight-and nine-year old dyslexics and 31 controls. Significant differences in left temporal-parietal theta activity in the electroencephalograms of the dyseidetic children suggested that their reading disabilities may be a function of overuse of linguistic abilities rather than deficient visual-spatial skills.

KOBUS, D.A.; ZINO, T.C.; LEWANDOWSKI, L.; & STURR, J.F. Reading disability: A hemispheric asymmetry–information processing approach. *Perceptual and Motor Skills*, October 1986, *63*, 583-591.

Examines visual half-field performances of reading disabled children across processing stages. Ten disabled readers, ages 7 to 14 years, were matched with 10 controls for age, sex, grade level, and handedness. Stimuli, presented on a screen, consisted of eight letters shown in a circular array. Children saw the stimulus array and then a probe with an arrow. They were to recall the letter believed to be in the location pointed to by the probe. Probes appeared after variable interstimulus intervals of 50, 150, 250, 300, 400, 500, 1000, and 1500 msec. RD children consistently performed below matched controls on letter recognition during both the perceptual and the short-term memory processing stages. Left-visual half-field performance dropped off for the RD group. Results are interpreted as indicating that a perceptual deficit may exist in RD children.

LEVENTHAL, GLORIA. Cerebral dominance and attentional bias in word recognition. *Perceptual and Motor Skills*, June 1988, *66*, 791-800.

Researches the role of cerebral dominance, functional localization, and attentional bias on the recognition of neutral and emotionally charged words presented unilaterally and bilaterally via tachistoscope to the left and right visual fields of 42 right-handed/right-eyed dominant and 42 left-handed/left-eyed dominant undergraduates. Stimuli consisted of a random combination of 24 one-word cards with six neutral and six emotional words presented in the LVF or RVF and 24 two-word cards, six each of emotional LVF-emotional RVF, emotional LVF-neutral RVF, neutral LVF-emotional RVF, and neutral LVF-neutral RVF words. After each tachistoscopic exposure, subjects were to write what word or words they had seen. One-third of the group had as their fixation target an arrow pointing to the left, one-third had a regular point, and one-third had an arrow pointing to the right. Right-handed subjects perceived more words overall than left-handed subjects. Right-handed subjects perceived significantly more words presented to the RVF than to the LVF, while the reverse was true for left-handed subjects. This latter finding held only for bilateral presentation of words. In the unilateral position, there were no significant differences between the two groups for words presented to the LVF.

ELLIS, ANDREW W.; YOUNG, ANDREW W.; & ANDERSON, CHRISTINE. Modes of word recognition in the left and right cerebral hemispheres. *Brain and Language*, November 1988, *35*, 254-273.

Reports four experiments examining the effects of word length on recognition performance in the left and right visual hemifields (LVF, RVF). Subjects for all experiments were right handed adults, evenly divided between males and females, and numbered 24, 12, 18, and 24, respectively, in the four experiments. In the first experiment subjects made lexical decision responses to 3-, 4-, and 5-letter concrete nouns and nonwords. Stimuli were presented unilaterally in a three-field tachistoscope. An interaction was found between visual hemifield (VHF) and word length, with a significant difference found between LVF and RVF latencies for 5-letter words but not for shorter words. Longer nonwords were rejected faster in the RVF than in the LVF also. In Experiment 2, also length affected lexical decision latencies to words presented in the LVF but not in the RVF. This held true for both concrete and abstract nouns. In Experiment 3, changing from a normal horizontal format to the use of unconventionally stepped format distorted words produced length effects for words in both VHFs. For the last experiment, subjects were to classify words as either concrete or abstract. The length × VHF interaction was found again. The authors present a model proposing two modes of visual processing of letter strings to account for these findings.

VAN PETTEN, CYMA, & KUTAS, MARTA. Ambiguous words in context: An event-related potential analysis of the time course of meaning activation. *Journal of Memory and Language*, April 1987, *26*, 188-208.

Reports two experiments with 42 and 33 young adults as subjects in which event related potentials (ERP) elicited by homographs ending sentences of moderate contextual constraint were followed. Following each sentence, a target homograph was presented in one of three conditions: (1) related to the contextually biased meaning of the homograph; (2) related to the unbiased meaning, or (3) unrelated to either meaning. Across subjects, the stimulus onset synchrony (SOA) between homograph and target was either short or long. Findings of naming latencies in Experiment 1 revealed priming for both contextually appropriate and inappropriate related targets at the short SOA but for only contextually appropriate targets at the long SOA. The EVRs elicited by these same stimuli in the second experiment showed a similar pattern of priming at the long SOA. However, at the short SOA the priming effect for contextually inappropriate targets had a later onset than that for contextually appropriate targets. Overall findings were interpreted as indicating that both meanings of ambiguous words are not activated at the same time. The late priming effect for contextually inappropriate targets are presented in terms of backward priming.

KIRSNER, KIM, & SCHWARTZ, STEVEN. Words and hemifields: Do the hemispheres enjoy equal opportunity? *Brain and Cognition*, July 1986, *5*, 354-361.

Questions the validity of several underlying assumptions of research into cerebral asymmetry in both normal and clinical populations involving the use of lateralized visual displays. It is argued that the RVF superiority found for word identification can be explained as the result of the favorable foveal viewing position enjoyed by the first letter or letters appearing in words projected to the RVF. Thus, the RVF advantage found is to be expected given (1) the presence of systematic biases in favor of initial characters or features of words and (2) the relation between retinal eccentricity and visual acuity.

OSAKA, NAOYUKI. Effect of peripheral visual field size upon eye movements during Japanese text processing. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 421-429.

Studies differences in eye movements when processing logographic (kanji) and alphabetical (kana) Japanese text. Saccadic eye movements and reading time of 16 students were recorded as they read nine different sets of Japanese text on a CRT in kanji-kana mixed mode and kana-only mode. Subjects were asked to rate each task for difficulty and to answer 10 questions over the text. As the visual field size increased from 1° to 45°, reading time decreased. As field size decreased, reading difficulty and percentage of correct answers decreased. The kanji-kana group showed better performance than the kana-only group. The minimum effective visual field size was found to be approximately 20° and 10° for kanji- and kana-based processing, respectively. For kanji, a small number of large amplitude saccades was needed; for kana, a large number of short-range saccades was needed.

CHIARELLO, CHRISTINE; SENEHI, JESSICA; & SOULIER, MARINA. Viewing conditions and hemisphere asymmetry for the lexical decision. *Neuropsychologia*, 1986, *24*(4), 521-529.

Varies, systematically, exposure duration, retinal eccentricity, and stimulus size in order to assess whether the lexical decision asymmetry can be altered by varying stimulus quality. Subjects were 60 right-handed native English speakers who viewed a series of nouns and pronounceable nonwords on a computer screen. Each stimulus appeared once in each visual field. In the first of three experiments, retinal eccentricity and stimulus size were held constant, and exposure time was varied over trial blocks. In Experiment 2, size and exposure time stayed constant with retinal eccentricity varying over blocks; stimulus size varied over blocks in Experiment 3. Accuracy of word/nonword decisions and RT were recorded. An

RVF advantage for word stimuli was found for all conditions. There was no tendency for RVF performance to be more influenced by stimulus quality than LVF performance. Results were interpreted as suggesting that hemisphere differences in the ability to extract information from degraded symbols cannot account for asymmetry in the task.

CHIARELLO, CHRISTINE; SENEHI, JESSICA; & NUDING, SARAH. Semantic priming with abstract and concrete words: Differential asymmetry may be postlexical. *Brain and Language*, May 1987, *31*, 43-60.

Investigates in three experiments whether abstract and concrete words would be differentially effective in priming lexical decisions to words presented to the RVF and LVF. In Experiments 1 and 2, subjects were 72 right-handed college students; in Experiment 3, 24 college students. Target stimuli in the first two experiments were 60 four- or five-letter nouns, each paired with a related abstract and concrete prime word of three to six letters. Lists of 20 pairs each were developed so that each list contained 20 related, 20 neutral, and 20 unrelated prime target pairs along with 40 filler pairs. Additionally, 100 orthographically legal nonword targets were created. Subjects were to register word/nonword decisions to the second string of a pair under conditions of high probability (Experiment 1) and low probability (Experiment 2) priming. Experiment 3 was identical to Experiment 2 except that subjects participated in two sessions separated by at least three days. Abstract words produced less priming for LVF than for RVF stimuli, but only under high probability priming conditions. Under low probability prime conditions, equivalent priming was obtained in each VF for both abstract and concrete primes. Results suggested that hemisphere differences for processing abstract and concrete words may arise only after lexical access has occurred, when semantic information retrieved from the lexicon becomes available for subsequent processing.

HYND, GEORGE W., & SEMRUD-CLIKEMAN, MARGARET. Dyslexia and neurodevelopmental pathology: Relationships to cognition, intelligence, and reading skill acquisition. *Journal of Learning Disabilities*, April 1989, *22*, 204-216, 220.

Reviews the neuroanatomical and neuropathological studies in an effort to determine what these research areas contribute to the understanding of the neurological and associated cognitive and neurolinguistic processes in developmental dyslexia. Inconsistencies and problems in the research are noted. Following a section reviewing the neurological basis of dyslexia, it is argued that inconsistencies in findings may be a function of specific limitations of measurement, methodologies, and procedures. Correlates of reading ability and disability are discussed in a developmental neuropsychological context with recommendations made for research integrating cognitive and neurological paradigms.

STROEBEL, SANDRA S., & EVANS, JAMES R. Neuropsychological and environmental characteristics of early readers. *Journal of School Psychology*, Fall 1988, *26*, 243-252.

Compares neuropsychological functioning and home environment of early readers and nonreaders. Included were 42 children, ages 4-2 to 6-3, who attended 12 preschools in one southeastern city. Early readers were identified by means of scores on the WRAT-R and the Reading Comprehension of the PIAT. Nonreaders in the same preschools constituted the control group and were matched with early readers on CA and IQ. Children were individually administered a battery of 11 measures purported to assess frontal, temporal, and parietal lobe functioning in the left and right hemispheres of adults. In addition, parents were administered an eight-item questionnaire. Only a measure associated with right hemisphere function and one presumed sensitive to left frontal function were found higher for early readers. Results of the parent questionnaire indicated that early readers were read to more frequently than nonreaders.

IV-2 Sex differences

KNICKERBOCKER, JOAN L. Sex differences in reading achievement: A review of recent research. *Ohio Reading Teacher*, Winter 1989, *24*(2), 33-42.

Reexamines the relation between sex and reading achievement in light of recent research. It is argued that current studies suggest the need for reevaluating conclusions regarding the superiority of girls' performance in reading as well as the reasons for the loss in supposed initial superiority of girls. The literature on sex bias in reading material does not support the contention that the stories reflect the interests of girls as opposed to boys. Research also refutes the premise that classroom environments and teachers favor girls; indeed, the findings support a picture of a pro male learning situation.

FREY, KARIN S., & RUBLE, DIANE N. What children say about classroom performance: Sex and grade differences in perceived competence. *Child Development*, August 1987, *58*, 1066-1078.

Examines sex and age differences in the affective content of evaluative statements and attributions for performance. Observers coded positive, negative, and neutral comments as they were exchanged between peers in kindergarten, first-, second-, and fourth-grade classrooms during periods of independent work, while the teacher worked with one of the small reading groups. The subjects were 41 girls and 42 boys ranging in ages from 5 1/2 to 10. The verbal interaction of each subject was observed for a total of at least 20 minutes. Children were subsequently interviewed about their own and peers' classroom performances, as well as expectancies on a novel memory task. Analyses of classroom observations generally supported previous laboratory findings: positive evaluation declined with grade level, and more negative self-evaluations and attributions were made by girls than boys. In contrast, the interview measures did not show grade or sex differences in self-assessment; however, the consistency across interview and observation measures was greater at higher grade levels and for boys than for girls.

CROSSMAN, DEBORAH L., & POLICH, JOHN. Hemispheric differences for orthographic and phonological processing. *Brain and Language*, November 1988, *35*, 301-312.

Compares visual field/hemispheric processing differences for the encoding of words by having subjects match tachistoscopically presented word pairs on the basis of their rhyming or visual similarity. Subjects were 32 undergraduate students who participated as part of a course requirement. All words were four-letters long and single syllables and were in four categories defined by orthographic and phonological similarity and dissimilarity. Generally, RVF/left hemisphere presentations yielded fewer errors when word pairs shared similar phonology under rhyme matching and similar orthography under visual matching. LVF presentations yielded fewer errors when word pairs were phonologically dissimilar under rhyme matching and orthographically dissimilar under visual matching. Males made more errors and demonstrated stronger hemispheric effects than did females.

BUTTERY, THOMAS J., & REITZAMMER, ANN F. Creative writing: A study of selected story stimuli on second grade children. *Reading Improvement*, Winter 1987, *24*, 262-266.

Examines the effects that selected picture books and props have on the creative writing of second grade children (N=94) in a suburban elementary school. A comparison of boys' versus girls' creative writing was made when the composition was elicited from two different literary genre (realistic fiction and fantasy) as well as when writing was prompted using a fantasy book in conjunction with a collection of toys. Three samples of creative writ-

ing were collected from each participant over a three week period. The Carlson *Analytical and Originality Scale* was used as the criterion for evaluating the creative elements of the pupils' writing for structure, novelty, emotional aspects, and philosophical thinking/individuality. Analyses indicated that the compositions were similar when books alone were used as stimuli for writing. However, there was a difference in creativity favoring the girls when a display of toys was used in conjunction with a fantasy book.

IV-3 Intellectual abilities and reading

SIEGEL, LINDA S. Evidence that IQ scores are irrelevant to the definition and analysis of reading disability. *Canadian Journal of Psychology*, June 1988, *42*, 201-215.

Asks whether intelligence test scores are related to performance on language, reading, memory, spelling, and arithmetic tasks in RD and non-RD children with a wide range of IQ levels. Subjects were 250 RD and 719 non-RD children, ages 7 to 16, all of whom had been administered the Reading, Spelling, and Arithmetic subtests of the WRAT. RD children scored at or below the 25th percentile on the WRAT Reading subtest, while non-RD children scored at or above the 30th percentile. Children were divided into four groups based on IQ (Full Scale WISC-R, estimated WISC-R, or PPVT): (1) below 80, (2) 80-90, (3) 91-109, and (4) 110 and higher. A battery of tests and other tasks were then given. One-way ANOVAs and Sheffe analyses were used to compare different IQ levels within a group. There were few differences among the IQ groups within the RD group. RD children showed few differences on the experimental language measures as a function of IQ. RD children at all IQ levels scored significantly below non-RD children. RDs were deficient in language and short-term memory independent of IQ. It was concluded that IQ does not appear to be predictive of the cognitive factors involved in reading, spelling, language, and memory tasks.

JACKSON, NANCY EWALD; DONALDSON, GARY W; & CLELAND, LYNNE NELSON. The structure of precocious reading ability. *Journal of Educational Psychology*, June 1988, *80*, 234-243.

Describes the cognitive correlates of reading achievement and identifies the individual differences in reading subskill patterns in young, precocious children. A sample of 87 kindergarten children, identified by their classroom teachers as reading well above average, were individually tested using a series of reading and cognitive measures. Measures were selected to reflect two hypothesized dimensions of reading, conceptual reading skill and analytic reading skill. However, factor analysis yielded a hierarchical modification of the hypothesized model. Three specific factors (speed, decoding rule use, and graphic precision) varied independently of general ability. Precocious readers were found to be diverse in their specific skills patterns or reading styles, suggesting that no single constellation of skills or reading style was necessary for rapid progress in beginning reading.

RICE, G. ELIZABETH; MEYER, BONNIE J.F.; & MILLER, DAVID C. Relation of everyday activities of adults to their prose recall performance. *Educational Gerontology*, 1988, *14*(2), 147-158.

Seeks to discuss if there is a connection between various everyday reading tasks of adults and performance on a prose recall task. Participants were 54 adults, 18 in each of three age groups: 18-32, 40-54, and 62 and over. Within each age group, half were identified as high in verbal ability and half as average in verbal ability on the basis of scores on the *Quick Word Test*. Data on reading habits and activities were collected by diaries in a previously reported study. Diaries were maintained each day for week-long periods, every other week,

for a total of five weeks. Items read were categorized into 23 categories, including a total time category and a total time-without-newspapers category. Additionally, activity data were placed into 20 categories. Written recall of two 388-word expository passages was used to assess prose recall. Reading of textbooks, technical journals, and science books was related to recall. Total time spent reading was also a significant predictor of recall. Age, education, and verbal ability were all significant predictors of prose recall. Over half of the variance in the older age group was explained by the amount of time spent playing word games and games of chance such as bingo.

MOORE, DAVID W., & WILSON, BARRY J. On the search for a characteristic WISC-R subtest profile of reading/learning disabled children. *Reading Research and Instruction*, Winter 1987, *26*, 133-140.

Assesses the utility of the Bannatyne recategorization of WISC-R subtest scores for diagnosing and prescribing instruction for reading/learning disabled children. A search of the research literature and a secondary analysis of WISC-R data collected in another study failed to produce evidence supporting the validity of the pattern. Caution was recommended in using WISC-R subtest patterns to diagnose and prescribe instruction for reading/learning disabled students.

SINATRA, RICHARD. Verbal/visual processing for males disabled in print acquisition. *Journal of Learning Disabilities*, January 1989, *22*, 69-71.

Tests a group of 14 young male disabled readers over a period of time to determine patterns of verbal and spatial processing. All had WISC-R scores, given prior to age 16, which were within the average range on either the Verbal or Performance scales and were severely disabled in reading or spelling. At the time of the first assessment their mean age was 12.4 years and mean grade level scores on the WRAT Reading, Spelling, and Arithmetic were 4.8, 3.6, and 5.1, respectively. Subjects were again evaluated after they reached the age of 16 with the WAIS, WRAT, SDRT, the test of *Space Thinking*, selected sections of the *Durrell Analysis of Reading Difficulties*, and a third-grade word list of 20 words. At retesting, WRAT mean achievement scores were 6.3 in Reading, 4.5 in Spelling, and 5.9 in Arithmetic. Average WAIS IQ was 99.5. A comparison of subscale scores on the WAIS and WISC-R indicated a significant increase in Similarities scores and a significant decrease in Vocabulary and Acquired Knowledge scores.

BOWERS, PATRICIA GREIG; STEFFY, RICHARD; & TATE, ELLEN. Comparison of the effects of IQ control methods on memory and naming speed predictors of reading disability. *Reading Research Quarterly*, Summer 1988, *23*, 304-319.

Explores the effect of different methods of controlling for IQ variance on the relationships among memory, naming speed, and reading performance. Verbal intelligence was controlled either by statistical procedures or by varying selection criteria from conservative to liberal. A sample of 46 children, ages 8 to 11, who had been referred to a university clinic and who had both verbal and performance IQs of 85 or above, were classified as reading disabled or normal based on the Reading Cluster of the *Woodcock-Johnson Test of Educational Achievement*. All subjects were given a broad range of neuropsychological, attentional, achievement, and intelligence tests. The WISC-R factor structure proposed by Kaufman served as the conceptual basis for the investigation. Results showed that when a liberal selection criterion was used, several variables tapping memory and naming speed contributed to the children's accuracy in reading both individual words and nonsense words. However, when statistical controls were used, memory scores were no longer predictive of reading performance but Digit-naming Speed continued to be predictive. When a restrictive selection criterion was used, the contribution of memory to reading performance decreased but the contribution of Digit Span increased.

McKay, M.F., & Neale, M.D. Patterns of performance on the British Ability Scales for a group of children with severe reading difficulties. *British Journal of Educational Psychology*, June 1988, *58*, 217-222.

Confirms the results of an earlier study on patterns of subtest performance on the *British Ability Scales* (BAS). Subjects were 24 Australian children who had displayed persistent and chronic difficulties with reading and language. The children, ranging in age from 6-0 to 11-11 were attending a university reading disability clinic. All were administered the BAS, a number of criterion-referenced tests and tests of academic achievement, and the NARA-Revised. Children did poorly on the subtests of Speed of Information Processing, Immediate Recall, Delayed Recall, Recall of Digits, and Word Reading. Results were similar to those from the earlier study, supporting the BAS profile of abilities for children with specific reading difficulties.

Santos, Olga B. Language skills and cognitive processes related to poor reading comprehension performance. *Journal of Learning Disabilities*, February 1989, *22*, 131-133.

Examines the relation between performance on 10 measures of language competence and cognitive skills and a measure of reading comprehension for 20 less skilled readers and 20 controls. Subjects came from three high schools; less skilled readers were receiving special help in reading comprehension in their schools. The comprehension paragraphs of the *Durrell Analysis of Reading Difficulty* were used as the measure of comprehension. Additional measures included the four subtests of the *Test of Language Competence* (TLC); the WJPEB Part I; the *Matrix Analogies Test*, Short Form; and the concept formation and analysis and synthesis subtests of the WJPEB. Data were analyzed by a backward-reaching stepwise regression using the Durrell as the criterion for reading comprehension. Less skilled readers performed less well than controls on measures of language skills. On the TLC only four of the less skilled readers scored in the range of the 24th to 50th percentiles; all controls did. On the three measures of nonverbal reasoning, less skilled readers performed significantly below controls.

LaBuda, Michele C., & DeFries, J.C. Cognitive abilities in children with reading disabilities and controls: A follow-up study. *Journal of Learning Disabilities*, November 1988, *21*, 562-566.

Compares the cognitive abilities of reading disabled and normal readers on a longitudinal basis. A sample of 70 reading disabled subjects and 75 control subjects were administered extensive psychometric batteries over an eight- to nine-year interval. Some of the subjects were tested on two occasions at the average ages of 10.1 and 14.3 years; other subjects were tested on three occasions at the average ages of 9.2, 14.6, and 17.8 years. Subjects were administered subtests of the PIAT, the WISC-R, the WAIS-R, the PMAT, and the *Colorado Perceptual Speed Test*. Principal component analyses revealed three dimensions: reading, symbol-processing speed, and spatial reasoning. MANOVA results found that all subjects exhibited significant and similar rates of increase in performance over the testing sessions. A significant Group × Time interaction revealed that differences between reading disabled subjects and controls was greater at the later testing times. Significant gender differences were found, favoring females, on reading comprehension and mathematics.

Snart, Fem; Das, J.P.: & Mensink, David. Reading disabled children with above-average IQ: A comparative examination of cognitive processing. *Journal of Special Education*, Fall 1988, *22*, 344-357.

Examines cognitive processes of above-average and average IQ LD children and compares them with non-LD peers. The final sample included 20 high IQ LDs, 13 average IQ

LDs, 17 high IQ non-LDs, and 10 average IQ non-LDs. LDs were assessed with the WISC-R and non-LDs with the *Canadian Cognitive Abilities Test* to obtain IQs. Scores were available for all children on the decoding subtest of the *Schonell Reading Test*. Six subtests of the *Kaufman Assessment Battery for Children* and four tasks involving attention and planning were administered. LD children overall performed more poorly on sequential than on simultaneous processing, while non-LD children performed similarly across scales. Non-DLs were superior to LDs on selective attention tasks but only when lexical access rather than direct visual matching was called for.

ORMROD, JEANNE E., & COCHRAN, KATHRYN F. Relationship of verbal ability and working memory to spelling achievement and learning to spell. *Reading Research and Instruction*, Fall 1988, *28*(1), 33-43.

Explores the relationships among spelling achievement, working memory, and reading ability. A sample of 48 undergraduates was administered a 40-word dictation spelling test, a learning-to-spell test, the ISRT, and a sentence span working memory measure. Positive coefficients of correlation were found between the two spelling measures and the ISRT Reading Speed and Reading Efficiency scores, suggesting that good spellers were faster readers. The ISRT reading and verbal scores, and the working memory measures were positively correlated with the spelling test. The working memory measures were positively correlated with learning to spell, while reading and verbal ability were not. Stepwise multiple regressions were performed with the two spelling scores as dependent variables and the four reading and verbal ability scores and the working memory scores as predictors. The ISRT scores accounted for a significant proportion of the variance only for the spelling test, not the learning-to-spell test. Working memory scores were significant predictors, beyond the ISRT scores, for both spelling measures.

GAUTHIER, LANE ROY. A study of listening comprehension as a predictor of reading gains. *Reading Improvement*, Winter 1988, *25*, 276-281.

Examines the relation between listening comprehension and reading achievement. A sample of 16 children ranging in grade from one through eight, received individual instruction for one semester as part of a graduate reading course. An informal listening comprehension test was used to classify children as above or below expected grade placement. Four pre-post measures were administered: the *Dolch Basic Sight Word List*, the *Slosson Oral Reading Test*, the *San Diego Quick Assessment List*, and an Informal Reading Inventory. It was hypothesized that pupils with relatively high listening comprehension levels would make the greatest gains in reading achievement. Results did not support this hypothesis. Children with listening comprehension levels at, or below, their expected grade placement made greater gains in achievement.

VAN BRAMER, JOAN. Piaget and the reading curriculum in the elementary school *New England Reading Association Journal*, Winter 1988, *24*(1), 2-13.

Argues for the importance of a theory of cognitive development in the design of curriculum. The researcher summarizes Piaget's four stages of cognitive development and identifies cognitive skills that have relevance to the reading process, including conservation, decentration, classification and class inclusion, and reversibility. Implications for reading instruction are suggested. The researcher also presents results from a conservation of liquid task administered with second and fourth graders in the same school district. Performance on the conservation task was compared with classroom reading performance. All of the children tested who were reading successfully at or above grade level showed the ability to conserve. All of the children lacking the ability to conserve were reading below grade level.

SPRING, CARL, & DAVIS, JOHN M. Relations of digit naming speed with three components of reading. *Applied Psycholinguistics*, December 1988, 9, 315-334.

Reports two studies investigating the relation of digit naming speed with the reading of irregularly spelled words, pronounceable nonsense words, and reading comprehension. Data for Study 1 were obtained from 30 children, five boys and five girls from each of grades 1, 2, and 3. Children were asked to name 50 randomly ordered digits as rapidly and accurately as possible. Word recognition was assessed with two lists of irregularly spelled words and two lists of pronounceable nonsense words. The correlation coefficient of age (1) with digit naming speed was .69; (2) with irregular word accuracy, .59; and (3) with nonsense word accuracy, .26. Most of the variance shared by irregular-word and nonsense-word reading was accounted for by digit naming speed. In Study 2, data from 92 children in grades 4-10 in a previous study of hyperactive children were used. Digit naming speed was measured and scored as in Study 1. The word recognition and reading comprehension subtests of the PIAT were given, and various subtests form the WISC-R were administered. Coefficients of correlation with digit naming speed ranged from .04 for WISC-R Performance IQ to .50 for PIAT word recognition. The coefficient with PIAT comprehension was .23 and was completely accounted for when either WISC-R Verbal IQ or word recognition accuracy was controlled.

IV-4 Modes of learning

VELLUTINO, FRANK R., & SCANLON, DONNA M. Experimental evidence for the effects of instructional bias on word identification. *Exceptional Children*, October 1986, *53*, 145-155.

Designs a study to determine if different types of instruction foster different word processing strategies in word identification. Subjects were poor and normal readers at grades 2 and 6, all with SIT IQs of 90 or above. Poor readers averaged below the 10th percentile on the *Gilmore Oral Reading Test*, and normal readers were at or above the 50th percentile. Children were assigned randomly to one of five treatment conditions: (1) phonemic segmentation training (PS)—instruction in phoneme segmentation; (2) whole word training (WW); (3) phonetic segmentation and whole word training (PSWW); and control conditions with (4) training and transfer code acquisition tests, or (5) transfer code acquisition test only. Findings suggested that the WW approach tended to foster a global processing strategy while the PS approach led to the use of an analytic strategy. Children taught the PSWW approach tended to use both processing strategies and also tended to perform better than did subjects receiving only one approach.

JIMÉNEZ, JUAN E., & RUMEAU, MARIA A. Writing disorders and their relationship to reading-writing methods: A longitudinal study. *Journal of Learning Disabilities*, March 1989, *22*, 195-199.

Asks about the relation between method of reading instruction and types of errors made on writing tasks for a sample of Spanish children. Involved were 260 pupils beginning public and private schools in Spain. Children were divided into the following three groups based on the teachers' instructional style in reading: (1) global-natural approach (n = 94), (2) syllabic approach (n = 103), and (3) phonic approach (n = 63). CA ranged from 5-1 to 8-1. Mean IQ as determined by the *Lorge-Thorndike Test* was 97, 93, and 96, respectively, for Groups 1, 2, and 3. Children were followed for two years. Teachers' instructional style was determined using *Teaching Diagnostics*. Two types of writing tasks, copying and dictation, were administered and scored for 10 error types. Pupils taught by the global-natural approach tended, by the end of the second year, to exhibit confusion in tracing some graphemes, while

those exposed to code emphasis approaches tended to have errors of mixing letters, incorrect unions, and letter-order. It was felt that global-natural pupils made errors that related more to reproductive aspects of information while the other groups made more errors of meaning in writing.

SWAN, SUSAN, & SYMINGTON, DAVID. Children's conceptions of the purpose of pictures in a story book. *Australian Journal of Reading*, March 1987, *10*, 9-11.

Asks 26 children at the Grade One level in a primary school in a lower middle class suburb of Melbourne to speculate as to the purpose(s) of the illustrations within a story in their reading series. Independent readers (highest level) viewed the illustrations as distinct from text. They made no mention of the pictures helping them with the reading or the understanding of the story. Dependent (middle group) readers saw a much closer relation between the print and pictures, and expressed the belief that pictures are there to help them read the text. Beginning readers (lowest group) indicated that pictures served as the primary source of information. Only one of the eight children in this group even mentioned text at all. The researchers suggest that teachers increase the amount of dialogue with children about the functions that illustrations and text can play in helping the reader.

HUNTER, BARBARA; CRISMORE, AVON; & PEARSON, P. DAVID. Visual displays in basal readers and social studies textbooks. In H.A. Houghton & D.M. Willows (Eds.) *The Psychology of Illustration: Instructional Issues*, Vol. 2. New York: Springer-Verlag, 1987, 116-135.

Attempts to validate a system for analyzing the form, function, and utility of visual displays of information appearing in text. A secondary purpose was to compare the use of visual displays in basal reading texts with their use in social studies texts, with a goal of better understanding the cognitive and contextual conditions in which different presentational media help or hinder written communication. Visual displays which occurred within eight fifth- and sixth-grade social studies and basal reading textbooks were identified. The analysis considered type of visual display (e.g., graphs, maps, diagrams, tables, charts), and location within the series (e.g. pupil text, teacher text, special atlas, workbook). In addition, visual displays were characterized in their distribution of text to nontext according to: (1) the function the display served in relation to the text it accompanied, (2) the source of the directive to the reader indicating how the information in the visual display relates to text, (3) the clarity of the reference to the visual display, and (4) the extent of elaboration of the reference to the display. Results of the comparisons indicated that social studies textbooks used visual displays more frequently and consistently than did the analyzed basal readers. In addition, basal readers tended to use visual displays as part of skills activities rather than incorporate them into real text. Visual displays in basal readers tended toward verbal representations in contrast with the spatial bias of social studies texts. Basals generally devoted less student folio space to visual information. With a few exceptions differences in the sample were most often explained by the content area variable rather than by grade and publisher.

BIEGER, GEORGE R., & GLOCK, MARVIN D. Comprehending spatial and contextual information in picture-text instruction. *Journal of Experimental Education*. Summer 1986, *54*, 181-188.

Examines the effects of presenting information by pictures versus text on the speed and accuracy in following directions. A total of 120 college students were randomly assigned to one of twelve treatment conditions. Each subject read a set of instructions, completed an assembly task, read a second, complementary set of directions, and completed a second assembly task. The assembly tasks consisted of building a model hand truck and constructing a felt wall hanging. Instructions were manipulated to convey various amounts of operational,

spatial, and contextual information. Performance was judged in terms of time and accuracy. No differences were found between pictorial and textual presentations of operational information. However, spatial information presented textually resulted in greater accuracy while spatial information presented pictorially led to faster performance times. Presenting contextual information pictorially substantially reduced assembly times but only slightly reduced the number of assembly errors.

INHOFF, ALBRECHT WERNER, & FLEMING, KEVIN. Probe-detection times during the reading of easy and difficult text. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, March 1989, *15*, 339-351.

Conducts two experiments to determine readers' probe-detection times during the reading of easy and difficult text. Subjects in both experiments were undergraduate students. For Experiment 1, 22 students read easy and difficult text when a secondary task was either present or absent. Students read short passages of easy and difficult text presented one word at a time on a CRT. A visual probe was used as the secondary task stimulus. Shorter visual-probe-detection times were found during the reading of easy text than during the reading of difficult text. In Experiments 2a and 2b, with 20 and 5 subjects, respectively, visual-probe detection was compared with auditory-probe detection. Again results revealed shorter probe reaction times during the reading of easy material than during the reading of difficult text, regardless of probe type. However, effects of probe type were found on the reading time of words following the visual probe. Results were interpreted as evidence that the reading of difficult text requires more capacity than the reading of easy text and that probes may incur modality-specific and modality-independent capacity demands.

KINZER, CHARLES K.; SHERWOOD, ROBERT D.; & LOOFBOURROW, MARY C. Simulation software vs. expository text: A comparison of retention across two instructional tools. *Reading Research and Instruction*, Winter 1989, *28*, 41-49.

Examines retention of information presented in either traditional, expository print form or through microcomputer simulation software. Subjects were 52 fifth graders of average ability and equal reading achievement levels (*SRAT*) in two different classes, one assigned to the control condition (N=30), the second to the treatment (N=22). The content of study, food chain relationships, was introduced to both groups with teacher mediated instruction, e.g., background discussion, purposes for reading, study guides, and visual overviews. The text group were given an expository text based on the computer simulation and were instructed to read it twice. Following their silent reading, pupils were directed to complete a study sheet. The computer group participated in a computer simulation depicting the content and completed the same study sheet. Retention of content was assessed one day following the study activities (text or computer simulation) on a two-part posttest consisting of multiple-choice questions and the completion of a food chain pyramid. Results indicated significantly higher performance on both parts of the posttest by the expository text group.

JUOLA, JAMES F.; HAUGH, DAVID; TRAST, SCOTT; FERRARO, F. RICHARD; & LEIBHABER, MICHAEL. Reading with and without eye movements. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 499-508.

Tests the effects of extended practice with the rapid serial visual presentation (RSVP) method of reading for good and poor readers. In RSVP, successive text segments of one or more words are presented to a common location on a computer screen, thereby eliminating the need for eye movements in reading. Subjects were 19 middle school students ages 12 to 15, half from remedial reading classes. Students were tested individually for five one-hour sessions on separate days. On the first day, subjects were given 10 paragraphs from the

McCall-Crabbs Standard Test Lessons in Reading, each followed by about 10 comprehension questions. They then were given 10 similar paragraphs parsed into ideas units about 13 character spaces in length with each unit shown on a screen at about 200 words per minute. On the following days, additional practice was given in page and RSVP formats with paragraphs in each format followed by four multiple-choice questions. Performance improved steadily for RSVP reading, being below the level of page performance for Session 2 but above that for pages on Session 5. When data were analyzed for 10 good readers and 9 poor readers, there was a nonsignificant advantage for the page format for good readers. However, by Session 5, poorer readers showed an advantage for RSVP over page format.

DARCH, CRAIG, & EAVES, RONALD C. Visual displays to increase comprehension of high school learning-disabled students. *Journal of Special Education*, Fall 1986, *20*, 309-318.

Examines the effectiveness of visual spatial displays in enhancing the comprehension of information. Subjects were 22 LD high school students, all identified by teachers and by SAT scores as having difficulty in reading comprehension. Students were randomly assigned to either the visual display group or a text group. Both groups were taught the content covered in three science units, each lasting 50 to 55 minutes per day for four consecutive days. In the experimental group, students were shown a visual display of the relationships of concepts in the units; the text group used text material with teacher-led discussion. A significant main effect was found favoring the experimental group on both unit tests and a posttest. Performance of both groups on a transfer and on a maintenance test was poor with no significant differences between groups.

WOOD, EILEEN; PRESSLEY, MICHAEL; TURNURE, JAMES E.; & WALTON, RUTH. Enriching children's recall of picture-dictionary definitions with interrogation and elaborated pictures. *ECT Journal*, Spring 1987, *35*, 43-52.

Addresses how children's learning of definitions is affected by two presentation variables, questioning and the elaborateness of illustrations accompanying the definitions. Eighty preschool children were presented four picture-dictionary definitions to learn. Definitions were accompanied either by pictures detailing all the attributes of the definition referent (elaborated pictures) or simpler, less complete illustrations (nonelaborated pictures). After one presentation, the definition was repeated either as a series of questions to which the child responded, or as simple declarative restatements. Total recall of information stated in the definitions was improved by the elaborated pictures. The presence of elaborated pictures also resulted in greater recall congruent with the defined concept, but not present in the definition as stated (i.e., inferences). Questioning produced a higher percentage of paraphrased recall (i.e., nonverbatim recall of information stated in the definitions). These latter two findings are consistent with the interpretation that both elaborated pictures and questions lead preschoolers to process more extensively information provided in definitions.

DAVIS, KATHLEEN A., & WALLS, RICHARD T. Oral versus written recollections of prose. *Journal of Reading Behavior*, March 1989, *21*, 59-68.

Asks whether there is a difference between oral and written recall of a prose passage. Undergraduate students were randomly assigned to either an oral recall condition (n = 13) or a written recall condition (n = 12) of a 527-word passage. The passage was adapted to stress eight superordinate concepts elaborated by 64 subordinate ideas. Recall protocols were scored for superordinate and subordinate concepts and for elaborations. There were no differences in recall of total numbers of superordinate and subordinate concepts or of elaborations across modes. However, there were differences between modes in recall of information appearing early or later in the text. For topics appearing toward the end of the text, oral mode subjects always recalled the subordinate concept alone when one level of concept was recalled without the other.

MASSARO, DOMINIC W.; COHEN, MICHAEL M.; & THOMPSON, LAURA A. Visible language in speech perception: Lipreading and reading. *Visible Language*, Winter 1988, *22*, 9-31.

Asks whether an orthographic stimulus influences speech perception in the same manner as a visible spoken articulation. The 12 adult subjects were tested in both a lipreading and a reading condition in two consecutive sessions, with order of conditions counterbalanced across subjects. In the lipreading condition, subjects viewed a videotape in which the speaker said either /ba/ or /da/ or nothing, but with the original audio track replaced with synthetic speech in which one of nine stimuli on the continuum from /ba/ to /da/ was paired with the visual articulations. The reading condition duplicated the lipreading condition except for the kind of visual information presented. Subjects viewed a TV monitor and fixated on two asterisks. For two-thirds of the trials, the asterisks were replaced by the letter strings BA or DA during the presentation of the speech sound, while the asterisks remained on screen the rest of the time. Subjects were to indicate (1) whether they heard the sound /ba/ or/da/ and (2) whether there was a change in the visual domain. Proportion of /da/ identifications was computed for each subject for both conditions. There was a much larger effect of the visual information in the lipreading condition relative to the reading condition.

MULHOLLAND, HELEN, & NEVILLE, MARY. Reading and listening at three school stages: cloze tests and their response analysis. *Journal of Research in Reading*, February 1989, *12*, 29-48.

Examines patterns of responses of Scottish children at three age levels to parallel reading and listening cloze tests. Data were collected as part of a large scale survey of Scottish school children at the ages of 8-9, 11-12, and 13-14. Approximately 400 students took each of the reading and listening cloze tests. Each test consisted of one narrative and one expository passage. No significant differences in performance were found between the listening and reading test. In general, older students performed better on the reading test and younger children performed better on the listening test when presented with more difficult, expository text. Results also indicated that students at all levels performed better on narrative passages than on expository passages. Text type (narrative vs. expository) appeared to be a more powerful influence on student performance than mode of presentation (reading vs. listening).

FREEBODY, PETER, & BYRNE, BRIAN. Word-reading strategies in elementary school children: Relations to comprehension, reading time, and phonemic awareness. *Reading Research Quarterly*, Fall 1988, *23*, 441-453.

Examines the extent to which young children rely on decoding versus sight word strategies in word reading and the relation of strategy dependence to comprehension. A sample of 179 second- and third-grade Australian pupils were administered word-reading tasks, phonemic awareness tasks, comprehension tasks, and a measure of reading speed. Correlation coefficients and cluster analyses were used to determine the relative proportions of subgroups on word-reading strategies. Evidence confirmed identifiable subgroups that showed dependence on one word-reading strategy at the comparative expense of the other. A significant interaction was found between subgroup and grade level when comprehension was the dependent variable. At grade two, children dependent on sight-word reading outperformed those using a decoding strategy but at grade three the pattern was reversed. It was concluded that overdependence on a decoding strategy does not impede comprehension improvement but overdependence on a sight-word strategy does obstruct progress in comprehension.

IV-5 Experiments in learning

GARBER, DARRELL H., & KINNEY, PAM. Scholars' study habits: How successful students succeed. *Reading: Exploration and Discovery*, Fall 1988, *11*, 33-41.

Surveys the study habits of ten academically advanced undergraduate students enrolled in a variety of disciplines The researcher met with subjects individually each week for a 10-week period. Information pertaining to study habits was collected through a structured interview form and through informal discussion. Several patterns common to subjects and disciplines were identified. Most studying was done between 7 p.m. and midnight. Subjects also preferred to study alone in quiet places spending relatively little time in the library. Most of the subjects exhibited high motivation. The students relied on frequent review sessions and studied in regular, fixed intervals. Reading was the most common study technique but most did not highlight textbooks. Instead they took notes or summarized information from the text. Notes taken in class were highlighted and grouped into categories. Virtually all the subjects read assigned text material before it was discussed in class.

COWEN, SARA E. Coping strategies of university students with learning disabilities. *Journal of Learning Disabilities*, March 1988, *21*, 161-164.

Identifies the coping strategies used by learning disabled undergraduate students. A sample of twenty-five students who had been identified as learning disabled before entering college was identified. The subjects were retested to obtain a current estimate of their cognitive and achievement levels. An open-ended questionnaire was also used to gather information about their coping strategies. A high level of agreement was found between the subjects' perceptions of their academic abilities and actual test performance. It was found that the subjects used a variety of coping strategies such as studying in a quiet place, scheduling a balanced course load, attending class regularly, completing all homework, seeking help from others, relying on a dictionary, substituting easier words when writing, and asking others to proofread their papers. The subjects did not generally take advantage of commonly recommended coping strategies such as tape recording lectures, requesting extra testing time, or using word processing to organize their written work and correct for spelling.

MOORE, REBECCA M. The effects of selected writing strategies on the social studies reading comprehension of fourth grade students. In Donavon Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.) *The Dilemmas of Teaching Reading*. Eighth Yearbook of the American Reading Forum, 1988, 64-70.

Compares the effects of instructional writing strategies on the comprehension of social studies materials. A sample of 81 fourth-graders was randomly assigned to three treatment conditions. One group received instruction and use in the Guided Writing Procedure, a teacher-directed instructional writing strategy in which children brainstormed ideas about a particular topic, wrote about the topic integrating past experience with textual information, verified what they wrote with the text, and rewrote when necessary. A second group used the Student Response Journal strategy in which they kept a written record of their views, feelings, and understandings of what they read. The third group received traditional Text-Restricted Instruction without any writing strategies. Nine passages selected from a fourth-grade social studies text served as instructional material. Multiple-choice tests and essay tests based on the passages were used as dependent variables. No significant treatment effects were found for literal, inferential, or overall comprehension, nor for essay production.

LEONARD, WILLIAM H. Does the presentation style of questions inserted into text influence understanding and retention of science concepts? *Journal of Research in Science Teaching*, January 1987, *24*, 27-37.

Investigates the effects of placing questions within text material. A sample of 425 undergraduate students enrolled in a general biology course was randomly assigned to seven treatment conditions. In the six experimental conditions, questions were (1) placed at the beginning of selected paragraphs in regular type, and with the questions presented, (2) underlined, (3) set in uppercase, (4) set above the paragraph, (5) underlined and set above, or (6) set above in uppercase. A control group received no questions. All subjects read the same 2,354-word passage on bacterial adaptations, took an immediate 20-item multiple-choice posttest, and a delayed (four weeks) posttest. Four of the six experimental groups scored significantly higher on the immediate posttest: those that received regular type, underlined, uppercase, and uppercase set above the paragraph. However, no significant differences were found among these four experimental groups. No significant differences were found among any of the groups on the delayed posttest.

DAVEY, BETH. Postpassage questions: Task and reader effects on comprehension and metacomprehension processes. *Journal of Reading Behavior*, 1987, *19*(3), 261-283.

Investigates the effects of question task conditions on reading comprehension and metacomprehension processes for 61 proficient hearing readers, 50 prelingually, profoundly deaf readers, and 62 disabled hearing readers, ranging in age from 11 to 15, and scoring between 5.0 and 7.9 on the reading comprehension subtest of the SAT. Subjects read 12 expository passages and completed multiple choice and constructed-response under lookback and no-lookback conditions over four consecutive days. Subjects related their perceived comprehension of a passage immediately after reading each passage, and again after responding to the questions. Overall performance was higher on multiple-choice questions than on constructed-response questions, and on lookback tasks. Scores were significantly lower for deaf students than for proficient and disabled readers. Perceived comprehension was higher for selected-response scores than for constructed-response scores, and for lookback scores. Mean scores on perceived comprehension were higher immediately after reading, than after answering questions. Significant interactions were found for both demonstrated and perceived comprehension performance, especially in lookback conditions. Differences were not comparable across the three reader groups.

GURI-ROZENBLIT, SARAH. Effects of a tree diagram on students' comprehension of main ideas in an expository text with multiple themes. *Reading Research Quarterly*, Spring 1989, *24*, 236-247.

Examines the effects of a tree diagram versus verbal explanation on the comprehension of the main ideas of social science expository text. A sample of 160 Israeli college students were asked to read a 3,500-word sociology text and complete an achievement test comprised of multiple-choice comprehension items and an open-ended summary item. Subjects were randomly assigned to four treatment groups: (1) the original text without adjunct aids; (2) the text with an added tree diagram; (3) the text, tree diagram, and a verbal explanation of the diagram; and (4) an elaborated text that highlighted critical relations by various typographical means. Verbal and visual aptitude measures were also administered and used as covariates. A significant difference among treatment groups was observed. The two groups who received the diagram scored significantly higher than those that read the original text. The group that received the combined treatment of diagram plus explanation scored significantly higher than the other three groups. No difference was found between the original text group and the elaborated text group, nor between students who received the diagram without explanation and those who received the elaborated text.

PRATER, DORIS L., & TERRY, C. ANN. Effects of mapping strategies on reading comprehension and writing performance. *Reading Psychology*, April-June 1988, *9*, 101-120.

Reports three studies that examine the effects of mapping strategies on reading comprehension and writing performance. In Experiment 1, 30 fifth-graders were assigned to one of two instructional conditions. One group received key concept mapping before and after reading six basal selections; the second group followed the procedures recommended in the basal guide. A 10-item, objective comprehension test and written summary followed each selection. Pupils receiving the mapping condition scored significantly higher on the comprehension measures, but not the written summaries. Mapping also seemed to be more effective for informational selections. Experiment 2 followed most of the procedures of the first study with the following changes: sample size was increased to 80 fifth-graders, reading selections were limited to informational passages, and the writing task was changed from a summary to a journal entry. Results were similar to Experiment 1. A significant main effect for treatment, favoring mapping, was found on comprehension, but not on writing. Experiment 3 used the same subjects and teachers as Experiment 2, but shifted the focus to literary mapping of narrative selections and returned to a written summary. No significant differences were found between the two treatment groups on either comprehension or writing.

KONOPAK, BONNIE C., & WILLIAMS, NANCY L. Eighth graders' use of mnemonic imagery in recalling science content information. *Reading Psychology*, July-September 1988, *9*, 233-250.

Reports two experiments that compare the effects of mnemonic imagery and traditional study strategies on recall of expository text material. In Experiment 1, 38 eighth-grade science students were randomly assigned to a mnemonic group (using the keyword method) or to a free study group (using underlining and notetaking). After completing a brief instructional unit, subjects read selected expository science texts. Posttests consisted of two sets of recall and recognition tasks and a study strategy questionnaire and were administered immediately after training, a week later, and a month later. The mnemonic group outperformed the free study group on both the immediate and delayed recall measures. However, no difference was found between the groups on a transfer learning task. In Experiment 2, basically the same procedures and methods were used with a sample of 44 below average students. Only one significant effect was found favoring the mnemonic group on the immediate recognition task. A follow-up analysis revealed that most of the mnemonic subjects failed to fully adopt the new procedure and reverted to more traditional study techniques when faced with a transfer task.

WHARTON, WILLIAM P. Imagery and the comprehension of college history texts: Free response measure. *Imagination, Cognition and Personality*, 1987-88, *7*(4), 323-333.

Reanalyzes the data of an earlier study that investigates the effects of imagery on the comprehension of college history texts. Four 500-word passages dealing with war were selected from an American history textbook. A revised version of each passage was written that substituted more image-forming words without altering the readability. Through a counterbalanced design, 192 college freshmen read one original passage and one revised passage and completed a free response measure that was scored on a ten-point scale. It was found that comprehension was significantly higher for the high imagery versions. An interest scale also revealed a significant effect in favor of the revised texts.

CASTAÑEDA, SANDRA; LOPEZ, MIGUEL; & ROMERO, MARTHA. The role of five induced learning strategies in scientific text comprehension. *Journal of Experimental Education*, Spring 1987, *55*, 125-130.

Investigates the effects of induced information processing strategies on the comprehension of scientific text. A sample of 100 Spanish-speaking undergraduate students were randomly assigned to one of five conditions: (1) use of rehearsal, or repetition; (2) use of elaboration, or paraphrasing; (3) use of linking; (4) use of grouping; and (5) use of hierarchy. Subjects were induced to apply the strategies with or without the texts available after reading three short chemistry passages written in Spanish and differing in lexical and syntactic difficulty and conceptual length. Significant differences among strategies were found for two of the three passages. Linking, grouping, and repetition improved comprehension performance; however, the effectiveness of the strategies varied with textual conditions.

SPENCER, DEVI, & SADOSKI, MARK. Differential effects among cultural groups of prereading activities in ESL. *Reading Psychology*, July-September 1988, *9*, 227-232.

Investigates the effect on ESL college students of prereading schema-development activities. Subjects, all enrolled in intermediate level ESL classes, included 11 Hispanics, 11 Orientals, 11 Arabics, and 12 students of other ethnic and racial groups. Subjects read two passages, one with a prereading activity designed to develop background and one without. Each passage was followed by 10 short-answer comprehension questions. Prereading activities were alternated for passages. Prereading groups scored significantly higher than did controls on comprehension. In the prereading condition, there was no significant difference among the three major groups; in the control condition, results favored Hispanics.

MCDANIEL, MARK A., & KERWIN, MARY LOUISE E. Long-term prose retention: Is an organizational schema sufficient? *Discourse Processes*, July-September 1987, *10*, 237-252.

Reports two studies that compare the effects of proposition-specific and schematic processing on story memory. In Experiment 1, a sample of 48 college students was asked to read a narrative adopting one of two perspectives while reading the story. To manipulate the degree of proposition-specific processing, letters were deleted from half of the idea units important to the encoding perspective and half the idea units unimportant to the encoding perspective. Subjects were asked to supply the missing letters. Comprehension was assessed using two immediate and one delayed recall tests and an immediate yes-no recognition test. Idea units which were important relative to the encoding perspective were recalled significantly better than unimportant idea units. Also, idea units with letters deleted were recalled better than intact idea units for both immediate and delayed testing, and for both important and unimportant idea units. When recognition data were analyzed, idea units with letters deleted were recognized significantly better than idea units with letters intact. A significant interaction revealed that the advantage of letter deletion tended to be limited to one of the encoding perspectives. No significant effect of idea unit importance was found. In Experiment 2, a different narrative was used. Testing was changed to include one immediate and one delayed recall and one delayed recognition test. No significant difference was found between the two encoding perspectives. However, as in Experiment 1, important idea units were recalled better than unimportant ones, and idea units with letters deleted were recalled better than intact idea units.

SPURLIN, JONI E.; DANSEREAU, DONALD F.; O'DONNELL, ANGELA; & BROOKS, LARRY W. Text processing: Effects of summarization frequency on text recall. *Journal of Experimental Education*, Summer 1988, *56*, 199-202.

Compares the text processing performance of college students who studied a 2,500 word passage and were randomly assigned to one of three study techniques: frequent summarization, infrequent summarization, or personal study methods. Subjects were 48 students enrolled in general psychology classes and randomly assigned in equal numbers (16 each) to one of the three experimental conditions. The stimulus materials consisted of a passage abstracted from a geology textbook. Participants were told they would be given an essay test on the target material during a follow-up session, five days after the reading/study of the material. The frequent summarization group was instructed to create four summaries at equally spaced intervals throughout the passage; the infrequent summarization group was instructed to create two equally spaced summaries. No further instructions on how to study were provided for these two groups. The control group was instructed to use their normal study techniques. All students were given 55 minutes to study the passage. The essay tests were scored for both content and organization. The results of a one-way ANCOVA, with the *Delta Reading Vocabulary Test* serving as the covariate, and group affiliation as the single fixed factor, revealed significant between-group differences for both the content and organization components of the essay test. Infrequent summarization, but not frequent summarization, was found to lead to significantly better performance than personal study methods on the essay. The frequent summarization group, however, produced better written summaries during the text processing phase than did the infrequent summarization group.

JOHNSON, LINDA L. Effects of underlining textbook sentences on passage and sentence retention. *Reading Research and Instruction*, Fall 1988, *28*(1), 18-32.

Reports findings of two experiments to determine the effect of underlining textbook sentences on passage and sentence retention. In Experiment 1, 46 first semester college freshmen who scored below the 16th percentile on the NDRT were assigned randomly to experimental or control conditions. Subjects were to read a 10-paragraph expository passage written at seventh-grade readability level and to answer a 40-item multiple-choice test based on it. Experimentals were told to underline one important sentence in each paragraph, while controls were told to read it as they normally would. Subjects also responded to three Likert scales on reaction to level of difficulty, interest in the material, and a measure of how comfortable they felt with study procedures. No differences were found between the two groups on the Likert scales or the multiple-choice test. However, experimentals took significantly longer to complete the task, and underlined sentences were recalled better than others. Superordinate sentences were retained better than subordinate sentences by experimentals but not by controls. Experiment 2 utilized 49 subjects similar to those in Experiment 1 and employed similar procedures except that subjects were told to review after reading. Although passage retention was not improved, both groups retained superordinate sentences better than subordinate.

GLOVER, JOHN A., & KRUG, DAMON. Detecting false statements in text: The role of outlines and inserted headings. *British Journal of Educational Psychology*, November 1988, *58*, 301-306.

Focuses on the effects of outlines and headings on the ability of high school students to detect false statements in text. Subjects were 60 10th and 11th grade students in a laboratory school who had completed a course in modern European history the week previous to the study. All scored above 75% on an examination over the content. A 2500-word summary of European events during the years 1946-1951 was prepared in four versions: (1) outline prefaced the text, (2) headings drawn from the outline were inserted in the text at the appropriate points, (3) a combination of (1) and (2) above, and (4) a control condition. Subjects were assigned randomly to versions and were asked to read the passage and underline any part that appeared hard to understand, contained inconsistencies, or was incorrect. Students in the

combined condition identified significantly more false statements (87%) than did students in any other condition. No significant difference was noted between students in the other two experimental conditions, but both of these groups did significantly better than controls.

ALVERMANN, DONNA E. Effects of spontaneous and induced lookbacks on self-perceived high- and low-ability comprehenders. *Journal of Educational Research*, July/August 1988, *81*, 325-331.

Investigates the effects of a graphic organizer that was designed to induce students to look back in text for information they had missed, misunderstood, or forgotten. Subjects were 64 tenth graders whose self-perceived comprehension ratings matched their scores on the comprehension subtest of the *Tests of Achievement and Proficiency*. The 32 high comprehenders and 32 low comprehenders were randomly assigned to one of two treatment groups: the experimental (induced lookbacks) and the control (spontaneous lookbacks). Students in the experimental group read a social studies passage and answered questions with the aid of the graphic organizer, designed to direct them to look back for information. Students in the control group read the passage and answered the questions. Ten open-ended test questions, including four lookback questions and six non-lookback questions, were presented following the reading. ANCOVA testing, using time spent on reading and answering the questions as a covariate, revealed a significant achievement-treatment interaction. Self-perceived low-ability comprehenders who were exposed to the graphic organizer treatment performed significantly better than the self-perceived low-ability comprehenders who were in the control group. There were no significant differences in performance for self-perceived high-ability comprehenders in the alternative conditions.

TOWNSEND, MICHAEL A.R., & CLARIHEW, ANNE. Facilitating children's comprehension through the use of advance organizers. *Journal of Reading Behavior*, March 1989, *21*, 15-35.

Seeks to examine the effectiveness of advance organizers with eight-year-olds having high or low prior knowledge of a science topic. Two experiments are reported, using 52 and 64 children, respectively, from New Zealand. A prior knowledge test, comprehension passage, comprehension posttest, and advance organizer were the same for both experiments. In Experiment 1, children were first administered the *Burt Word Reading* test and the prior knowledge test. Weak and strong prior knowledge group were identified, and half in each knowledge groups were randomly assigned to an advance organizer or no-advance organizer condition. Subjects read a 313-word passage and answered an 18-item test over explicit and implicit information from the passage. The advance organizer had a facilitative effect on comprehension only for the strong prior knowledge group. Experiment 2 added pictures to the verbal advance organizer. Comprehension scores were higher for both groups of advance organizer children.

SIMMONS, DEBORAH C.; GRIFFIN, CYNTHIA C.; & KAMEENUI, EDWARD J. Effects of teacher-constructed pre- and post-graphic organizer instruction on sixth-grade science students' comprehension and recall. *Journal of Educational Research*, September-October 1988, *82*, 15-21.

Investigates the effects of using graphic organizers on sixth-grade students' comprehension and recall of science material. A total of 47 sixth-grade students were screened for prior knowledge of the science content. Subjects were assigned to one of three treatment conditions: (1) a prereading graphic organizer group; (2) a postreading graphic organizer group; and (3) a traditional question/discussion group. All groups were presented the same content in six 30-minute instructional sessions. Dependent measures consisted of short-term probes, and immediate and delayed short-answer posttests. A significant main effect for treat-

ment was found for the delayed posttest measure but not for the immediate posttest or the short-term probes. Subjects who received graphic organizers before reading performed significantly better on the delayed posttest.

CORKILL, ALICE J.; GLOVER, JOHN A.; BRUNING, ROGER H.; & KRUG, DAMON. Advance organizers: Retrieval context hypotheses. *Journal of Educational Psychology*, September 1988, *80*, 304-311.

Reports six experiments that investigate the effects of different retrieval contexts of advance organizers on the recall of prose. In Experiments 1 and 2, college students read a 1,300 word essay. Three encoding conditions were used: (1) paraphrasing an organizer; (2) listing key words in an organizer; and (3) a control without an organizer. Immediate free-recall posttests were manipulated to include a no-cue-retrieval condition and a cued-recall condition with the organizer present. There was a significant encoding effect for paraphrasing but no retrieval effect. Experiment 3 replicated many of the procedures of Experiments 1 and 2 with a different sample of college students. Encoding conditions were limited to paraphrasing the organizer and a control. A one-week delay was imposed between treatment and posttest. Again, a significant encoding effect favoring paraphrasing was found as well as a significant retrieval effect for cued-recall with the organizer. Experiments 4 and 5 used procedures similar to Experiment 3. In Experiment 4, seventh graders were given a 24-hour period between encoding and retrieval; in Experiment 5, college students were given a two-week delay between encoding and retrieval. Results showed a significant encoding effect for paraphrasing; a significant retrieval effect for cued-recall; and a significant encoding × retrieval effect. In Experiment 6, rereading an advance organizer before delayed testing with rereading a false organizer, and rereading the first paragraph of the essay were contrasted. Results confirmed that rereading an advance organizer before delayed testing had a significant effect on recall.

ALVAREZ, MARINO C., & RISKO, VICTORIA J. Using a thematic organizer to facilitate transfer learning with college developmental studies students. *Reading Research and Instruction*, Winter 1989, *28*, 1-15.

Examines whether a thematic organizer is effective in producing transfer of learning from a known context to a new context for developmental college students. The thematic organizer, a prereading text adjunct designed to activate prior knowledge and enable the reader to assimilate ideas that had previously been unrelated, was developed by the researchers and was written on a level commensurate with the students' reading ability. The subjects were 48 college students enrolled in two developmental studies classes with their regular instructor. Within each class students were randomly assigned to either the experimental or comparison group. All subjects were given two passages (one science and one literature) that presented the concept "scientific method of research." The presentation of passages was counter-balanced. Subjects in the experimental group received the thematic organizer and directions to tread the messages in a specified order. Students in the control group were directed to read and study each passage. After reading, each subject was asked to write answers to five open-ended questions, the measure of transfer of learning. A 2×2 factorial design with two between subjects variables of treatment and passage order was used to analyze the data. Results of ANOVA testing indicated a positive main effect for treatment. There was no significant passage order effect nor was there a significant treatment by passage order interaction. The results provided support for the use of a thematic organizer to enhance transfer of learning.

KLOSTER, ALDONA M., & WINNE, PHILIP H. The effects of different types of organizers on students' learning from text. *Journal of Educational Psychology*, March 1989, *81*, 9-15.

Studies the effects of four types of advance organizers (concept, analogy, outline, or dummy) on the ability of eighth graders to learn from text. Complete data were available for 199 children in one British Columbia high school. A 30-paragraph text of 2,000 words was prepared in each of the organizer conditions. Subjects in intact classrooms, assigned randomly to one of the four conditions, were to code each paragraph by writing the number (0-4) of the matching organizer section in a box beside each paragraph. A zero was to be used if a subject felt there was no relation between a paragraph and a section of their organizer. Determined from this was a trace score which reflected children's actual use of the organizer while reading the text. Five short-answer questions and two 15-item multiple-choice tests followed. School grades were used as a measure of general aptitude. Mean correct trace scores in percentages were: concept 30%, analogy 38%, outline 61%, and dummy 38%. Low trace scores in the concept and analogy organizer conditions were interpreted as an indication that linking the new material with information in a true organizer was difficult. A correlation coefficient of .20 was found between the ability to trace and letter grade in school. Achievement as determined by the free recall and multiple-choice tests improved with aptitude and trace scores. Subjects in the concept and analogy organizer groups who had higher trace scores outperformed subjects in the outline and dummy groups. Results were interpreted as indicating that simply providing an advance organizer is no guarantee that students can use it effectively.

CORKILL, ALICE J.; BRUNING, ROGER H.; & GLOVER, JOHN A. Advance organizers: Concrete versus abstract. *Journal of Educational Research*, November-December 1988, *82*, 76-81.

Reports the results of two experiments that compare the effects of abstract and concrete advance organizers on readers' memory for prose. In Experiment 1, 44 elementary education majors were randomly assigned to three treatment conditions. Some subjects received a concrete advance organizer; other subjects received an abstract organizer; and a third group received no organizer. All subjects read a 1200-word essay and were given a free-recall posttest. There was a significantly higher recall performance for subjects receiving the concrete organizer. Experiment 2 replicated the same procedures with 47 secondary education majors using a 5,000 word text. The results were the same as those of Experiment 1. The concrete advance organizer produced significantly greater recall.

MASTROPIERI, MARGO A., & PETERS, ELLEN E. Increasing prose recall of learning disabled and reading disabled students via spatial organizers. *Journal of Educational Research*, May/June 1987, *80*, 272-276.

Designs two experiments to study the effects of map-like illustrations on the recall of related prose passages by LD and RD youth. In Experiment 1, 20 LD eighth graders were randomly assigned to study either a spatially organized illustration or a randomized illustration prior to hearing a related prose passage. The spatial organizer showed each of 18 separate features in an organized location on the map, while the randomized illustration presented the same features in a random list order. Both mimetic (representational) symbols and referent labels were used. Subjects listened twice to a short prose passage describing the origin and growth of the town shown on the map. Included was specific information associated with one of the map features. Free recall of the information was then elicited and subjects were asked to reconstruct the map. In Experiment 2, 48 junior high mildly handicapped learners were asked to study either spatially organized illustrations with or without mimetic symbols or randomized illustrations with or without mimetic symbols. The text passage and other procedures were the same as in Experiment 1. The two experiments together showed that spatially organized illustrations facilitated recall. The mimetic symbols groups outperformed the labels groups.

REYNOLDS, RALPH E., & BAKER, DALE R. The utility of graphical representations in text: Some theoretical and empirical issues. *Journal of Research in Science Teaching*, February 1987, *24*, 161-173.

Examines the effects of graphic aids on the understanding of textual material. A sample of 130 high school students was randomly assigned to five treatment conditions. Treatment conditions involved reading a 1000-word physics text, with or without graphs, in a printed booklet or on a computer screen. In one computer presentation the graphs were interactive allowing students to construct them. Following the reading, subjects completed a spatial test as an interpolated task, and then took a multiple-choice achievement test which assessed their comprehension of the text. Achievement and attention allocation were used as dependent variables. No significant differences were found in learning or attention allocation between graphs and no-graphs conditions when collapsed across modes of presentation. However, learning and attention allocation were significantly higher for computer presentation than for text presentation. Subjects receiving the interactive graph condition scored significantly higher on attention allocation but not on learning.

REINKING, DAVID; HAYES, DAVID A.; & MCENEANEY, JOHN E. Good and poor readers' use of explicitly cued graphic aids. *Journal of Reading Behavior*, September 1988, *20*, 229-247.

Examines the effects of graphic aids with and without cuing on good and poor readers' comprehension. A total of 167 seventh- and eighth-graders were randomly assigned to one of five treatment conditions. Passages had either no graphic aids, graphic aids, or graphic aids with one of three cuing conditions (boldface type, boxed, or inserted in text). Passages with graphic aids contained ones that presented both redundant and non-redundant information. A multiple-choice comprehension test and post-experiment graphics test served as the dependent measures. Results showed that explicit cuing increased the recall of graphic information. Redundant graphic information was recalled better than non-redundant information. No significant treatment effect was found on the comprehension test. However, significant interactions revealed that explicit cuing of graphic aids benefited poor readers' comprehension more than good readers' comprehension.

BEAN, THOMAS W.; SINGER, HARRY; SORTER, JACK; & FRAZEE, CHARLES. Acquisition of hierarchically organized knowledge and prediction of events in world history. *Reading Research and Instruction*, Winter 1987, *26*, 99-114.

Investigates the hypothesis that training in the construction and use of graphic organizers would assist students in making predictions of events in world history textbooks. Students in two 10th grade honors history classes were randomly assigned to experimental or control conditions. The experimental group received instruction in constructing graphic organizers to arrange information hierarchically. They were taught to use this knowledge for predicting subsequent events. The control group made text outlines for discussion. There were no differences between groups on four of the five multiple-choice chapter tests. On a five-item Likert scale comparing attitudes toward organizers or outlines, differences were not statistically significant. On an essay test involving the application of prior knowledge from previous chapters to predictions of events in new text, experimental subjects outperformed control subjects. The researchers conclude that students must be taught how to organize knowledge hierarchically as well as how to use that knowledge for making predictions.

VAN DAM, GERRIT, & BRINKERINK-CARLIER, MICHELE. The influence of self-generation of retrieval cues during learning or recall of a text. *Journal of General Psychology*, April 1988, *115*, 151-159.

Conducts a series of three studies to determine whether the generation of a list of retrieval cues at the onset of recall is still effective when the accessibility of paragraphs is enhanced during learning. Subjects were all undergraduates at the University of Utrecht. The 29 students in Experiment 1 were assigned at random to one of two conditions. All subjects were told to study a text and to generate a word or a few words to be written in the margin to help them to remember each paragraph. In the advanced listing condition (AL), students were to write down the cue words they had generated and then to orally reproduce the contents of the text. In the posterior listing condition (PL), 14 students were initially asked to orally produce the contents of the text. Following recall, they were asked to list retrieval cues and permitted to supplement their recalls if additional information came to mind. Experiment 2 was similar to condition AL of the first experiment except that the 14 subjects were allowed to make notes or underline during the study period. Experiment 3 presented conditions similar to those of the first experiment but with a text consisting of 20 paragraphs that were serially ordered according to the temporal/causal development of the event depicted in the text. Experiment 1 indicated that explicit reproduction of cues at the onset of recall enhanced access to the paragraphs. Experiment 2 showed that reproduction of retrieval cues at the onset of recall facilitated access to the paragraphs even if inspection of the generated cues was not allowed during subsequent recall. Findings of the third experiment suggested that formulating retrieval cues did not facilitate recall of a narrative text.

MUTH, K. DENISE; GLYNN, SHAWN M.; BRITTON, BRUCE K.; & GRAVES, MICHAEL F. Thinking out loud while studying text: Rehearsing key ideas. *Journal of Educational Psychology*, September 1988, *80*, 315-318.

Manipulates the presence of instructional objectives in order to determine the influence on recall of text. Subjects were 32 undergraduates who were asked to read aloud and recall two of four experimental texts. Materials consisted of two pairs of topically related texts, each about 600 words in length, in which an identical paragraph was high in the structure of one text and low in the structure of the paired text. Half of the subjects were asked to memorize three objectives before studying each text; the other half studied the materials without objectives. As they read, they were to think out loud. ANOVA was performed to assess the effects of instructional objectives and information location on rehearsal, initial reading time, and free recall. There was significantly more rehearsal with objectives than without. Reading time was longer with objectives, and paragraph information was recalled better with objectives than without. Recall correlated significantly with reading time. More information was recalled when the objective-relevant information was high in the structure content.

SLATER, WAYNE H.; GRAVES, MICHAEL F.; SCOTT, SHERRY B.; & REDD-BOYD, TERESA M. Discourse structure and college freshmen's recall and production of expository text. *Research in the Teaching of English*, February 1988, *22*, 45-61.

Investigates the effects of a discourse structure reading and writing strategy training program on college students' comprehension and writing. Six intact reading and study skills classes were randomly assigned to experimental, conventional, and control conditions. Treatments consisted of nine weeks of instruction plus pre- and posttesting. Passages from college-level history texts served as practice material in all conditions. Experimental subjects received instruction in how to write and study summaries for materials read; conventional group subjects received directed reading lessons over the same material; and the control group completed traditional skill-based activities. Pre- and post-measures included recall protocols, short answer comprehension questions, and a direct writing assessment. A series of ANOVAs revealed significant treatment effects on all three measures. On recall, the experimental subjects outperformed the conventional group, and both the experimental and conven-

tional groups scored significantly higher than the control group. On the short answer test, the experimental and control groups received a significantly greater number of correct answers. The experimental group scored significantly higher than the control group on the writing posttest.

HENK, WILLIAM A. Effects of top-level comparison-contrast text structures on reading comprehension performance. *Reading Research and Instruction*, Fall 1988, *28*(1), 1-17.

Asks whether there are differences in the abilities of mature readers to understand and remember unfamiliar text presented in divided versus alternating patterns of comparison-contrast organization. Subjects were 24 upper-level undergraduate students, all possessing college-level reading ability as determined by performance on a series of three cloze passages. Two different versions of each of four scientific comparison-contrast passages were developed, one with a divided comparison-contrast pattern and one with an alternating type pattern. Six shorter passages were approximately 220 words long and two longer passages averaged 700 words in length. In divided forms, all information about one topic was presented first followed by all data regarding the second topic; in the alternating forms, a single aspect of the initial topic was presented and followed immediately by the corresponding aspect of the second topic. Each subject received two short and two long passages, and two divided and two alternating patterns, with each passage followed by a series of completion and multiple-choice questions. One week later, subjects were given the same set of 40 multiple-choice questions to assess long-term retention. Subjects learned and recalled information equally well regardless of comparison-contrast pattern used.

ROBERTS, THERESA A. Developmental aspects of activating voluntary and involuntary memory processes during reading. *Contemporary Educational Psychology*, January 1989, *14*, 1-11.

Investigates in two experiments the development of the ability to utilize voluntary memory processes in the context of remembering narrative text. For the first experiment, subjects were 130 children in grades 4, 5, and 9. One story was written at two different readability levels, 4.5 and 9.0 For each of the eight paragraphs in the story, three types of instruction were constructed, each designed to induce different mediation processes while reading: involuntary memory, voluntary memory, and control. Children were asked also to write a sentence after each paragraph. An 18-item fill-in test and a free recall posttest were also administered. In Experiment 3, 113 fifth- and seventh-grade pupils were used. Procedures were essentially similar to those of Experiment 1, but a new story was developed. Findings of both experiments revealed that older children in the voluntary memory treatment group were significantly better than younger children in the voluntary group on factual comprehension, delayed free recall, and the number of story events represented in recall. Involuntary memory instructions resulted in significantly better performance than voluntary remembering for younger pupils on structural events in recall, free recall, and factual comprehension (Experiment 2) and elaboration (Experiment 1 only).

SCHWANENFLUGEL, PAULA J., & STOWE, RANDALL W. Context availability and the processing of abstract and concrete words in sentences. *Reading Research Quarterly*, Winter 1989, *24*, 114-126.

Investigates, in two experiments, the influence of a sentence context on the processing of abstract and concrete words. Subjects for both experiments were undergraduates and numbered 17 and 21. In Experiment 1, subjects were asked to complete a word naming task in which abstract and concrete words were presented in either a meaningful or a neutral sentence context. In Experiment 2, subjects were asked to determine whether abstract and concrete

words were meaningful sentence completions; words were presented in either a meaningful or nonmeaningful context. Abstract words took longer to name than concrete words when appearing in neutral context. Meaningfulness judgments were slower for abstract words than for concrete words when presented in a nonmeaningful context. Concreteness effects were eliminated when words appeared in supportive contexts.

McNamara, Timothy P., & Healy, Alice F. Semantic, phonological, and mediated priming in reading and lexical decisions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, July 1988, *14*, 398-409.

Cites findings from four experiments with college students investigating whether lexical-decision and reading tasks were faciliated by semantic and rhyming relations. Subjects responded to pairs of words that were semantically related, that rhymed, or that combined both of these through a mediating word. Test lists consisted of word-word pairs, and nonword-word, and word-nonword pairs in one version; in another version, only word-word pairs were in the test lists. Lexical decision and self-paced reading tasks were facilitated by semantic and rhyming relations regardless of the presence or absence of nonwords. However, the effect of the mediated relation depended upon the presence of nonwords. When only words were included, there was no effect on the mediated relation; when nonwords were included, lexical decisions and reading were inhibited by the mediated relation.

Tardif, Twila, & Craik, I.M. Reading a week later: Perceptual and conceptual factors. *Journal of Memory and Language*, February 1989, *28*, 107-125.

Carries out two experiments to assess the contributions of general and specific perceptual and conceptual information in the rereading of text passages printed in geometrically transformed typographies. Subjects in Experiment 1 were 18 undergraduate psychology students in a Canadian university; in Experiment 2, subjects were 28 undergraduate students and research assistants at the same university. In the first experiment, subjects read orally passages in four typographies: normal, inverted (same font as normal but upside-down), mirror-image, and reversed spelling (letters presented normally but words read from right to left). Two sessions were involved; at the second session, subjects reread nine of the passages presented at the first session and were given three new passages to read. Total reading time and time to correct errors were measured. Experiment 2 involved the same general procedures as Experiment 1, but with identical and paraphrased paragraphs compared. In the first session, subjects read one practice and four experimental passages, all in one of two transformed typographies. One week later, subjects read six passages, two original in the identical semantic form, two original in paraphrased form, and two new. One passage in each semantic condition was presented in its original typography and one in the new transformed typography. Following the oral reading in Session 2, subjects were asked to identify any passages that seemed familiar to them and to define whether they meant general gist or exact words. No evidence was found for the retention of specific perceptual information one week later, although there was evidence for the retention of gist and for transfer of both a general pattern-analyzing skill and of specific lexical information.

Pórpodas, Cóstas D. The effect of articulatory suppression on Greek children's reading of Greek. *Educational Psychology*, 1986, *6*(2), 115-122.

Studies the effects of articulatory suppression on children's reading of Greek. Subjects were 20 boys and 20 girls, ages 7.9 to 8.6, from primary-three classes in the Athens area. IQs on the *Raven's Coloured Progressive Matrices* ranged from 103 to 117. All were selected as normal readers based on teachers' judgments and a reading speed between 100-120 words per minute. Children were assigned randomly to either an experimental or control group. Controls were asked to read a passage silently while experimentals were to repeat

continuously the word "yes" as they read. Reading was timed, and the number of idea units recalled was evaluated. Experimentals both read more slowly and recalled fewer idea units than did controls.

KRUEGER, LESTER E. Detection of intraword and interword letter repetition: A test of the word unitization hypothesis. *Memory and Cognition*, January 1989, *17*, 48-57.

Conducts two experiments testing the word unitization hypothesis. Twenty university undergraduates served as subjects in each experiment. Subjects in Experiment 1 were asked to judge whether a letter was repeated within a six-letter word or nonword (intraword letter repetition); in Experiment 2, they were asked whether a letter was repeated between two adjacent unrelated six-letter words or nonwords (interword letter repetition). Both interword and intraword letter repetition were found to be detected faster and just as accurately with words as with nonwords. However, interword letter repetition was detected less accurately on common words, but not on rare words or third-order pseudowords, than on the corresponding nonwords.

ACKERMAN, BRIAN P. The relation between attention to the incidental context and memory for words in children and adults. *Journal of Experimental Child Psychology*, February 1986, *14*, 149-183.

Reports five experiments studying how developmental differences in selective attention to the physical and conceptual relations between the target and context information affects target memory. Subjects in the first four experiments included children in grades 2 and 5 and college undergraduates, with numbers ranging from 30 to 90 at each grade level; in Experiment 5, subjects were 60 undergraduates. Subjects saw a series of word triplets in which one word was designated as the target and the other two were incidental context words. The three words in each group varied in the degree to which the members shared categorical relations. Incidental context words were either closely related to the targets (hard triplets) or unrelated (easy triplets). In the first experiment, the target word was distinguished from the context words by meaning, or by color or spatial configuration, and cued recall for target and incidental word was assessed. Experiments 2 through 4 also assessed memory for target words by cued recall tests, while a recognition test was used in Experiment 5. Results indicated that the allocation of attention for all age groups varied in context-interactive and context-independent encoding situations. It was also found that when context can be meaningfully related to target information, adults may be less selective than children and more likely to attend to context information. Adults may be more selective in situations stressing attentional capacity.

O'BRIEN, EDWARD J., & MYERS, JEROME L. The role of causal connections in the retrieval of text. *Memory and Cognition*, September 1987, *15*, 419-427.

Reports two studies that investigate the effects of text structure on importance and memory. In Experiment 1 the relation between retrieval time and causal relations was examined. A sample of college students was asked to read a series of passages. A cued recall task asked them to retrieve targeted concepts that appeared in either early or late positions within the text. No significant difference in retrieval times was found between early and late targets, nor between long or short passages. The only significant effect was test position, with subjects performing significantly better on the second versus first probe. Experiment 2 replicated the first study with one additional procedure. Subjects were asked to count backward before each probe to reduce the possibility of any active propositions in working memory. Results from the second study were consistent with the first study and confirmed the probe-position effect. In both studies, measures such as length of causal paths and number of causal connections were significant predictors of retrieval times.

PICKENS, JUDITH, & MCNAUGHTON, STUART. Peer tutoring of comprehension strategies. *Educational Psychology*, 1988, *8*(1/2), 67-80.

Investigates the effectiveness of using low achieving students to tutor their lower achieving classmates in the use of selected comprehension strategies. Subjects were four boys and four girls from a composite seven and eight year classroom in Australia. The four tutees ranged in age from 11-3 to 13-6; the four tutors, from 12-3 to 12-8. Tutees' reading deficits averaged slightly over three years on the *Gap Reading Comprehension Test* and close to four years on the accuracy score of the NARA. Tutors were paired with tutees so that their scores were at least six months higher on both instruments. A matched contrast group was also formed from children in the same classroom who were not selected for the tutoring program. Repeated measures were taken of answers to multiple-choice comprehension questions and to cloze recall tests. Pre- and posttests were taken on the oral reading accuracy and comprehension subtests of the NARA and on the Gap reading comprehension cloze test as well as on measures of strategy knowledge, attitude and self-concept, and peer status. Following baseline data collection, initial training for comprehension monitoring and a summary writing strategy were given to all children in one 45-minute session. Training in a story picture strategy was given in a second session. Tutors were then given feedback as instruction in the strategies continued. Repeated measures indicated that both tutors and tutees learned how to use the strategies successfully. Gains made by the tutor/tutee groups on the standardized instruments were superior to gains made by the comparison group.

NICKSE, RUTH S.; SPEICHER, ANN MARIE; & BUCHEK, PAMELA C. An intergenerational adult literacy project: A family intervention/prevention model. *Journal of Reading*, April 1988, *31*, 634-642.

Examines the effectiveness of an intergenerational approach to adult literacy in a program conducted at the Family Learning Center, Boston University. The 30 adult participants were all parents of children receiving reading instruction in Chapter 1 classrooms. The tutees, predominantly female (70%), black (37%), and high school drop-outs (70%) received instruction in two- or three-hour weekly sessions for a period of five to eight months. The tutoring program was delivered by university work-study students who were paid at an hourly rate, supervised by the university staff, and given 112 hours of training by professionals in reading and adult education. The training program consisted of lesson plans focused on decoding, vocabulary, reading/listening comprehension, study skills, and writing. In addition, tutors modeled learning activities for parents to use with children and encouraged independent activities for parent and child. Participant retention in the program was 73%. Measurable vocabulary and comprehension gains were achieved, and increased according to the number of hours of tutoring.

WILHITE, STEPHEN C. Reading for a multiple-choice test: Headings as schema activators. *Journal of Reading Behavior*, September 1988, *20*, 215-228.

Assesses the effect of headings on multiple-choice test performance. A sample of 116 college students was randomly assigned to one of two versions of a 1,760-word passage. In one version, the passage was divided into eight sections, each with a subheading. The second version consisted of straight text without subheadings. The passages were followed by a multiple-choice test. The test was comprised of three items, one main idea and two detail items, for each section of the passage. Subjects were classified as having high or low preexisting knowledge of the passage topic based on a pretest. A 2×2 MANCOVA was used to examine the effects of headings and preexisting knowledge on main idea and detail items. A significant main effect was found for prior knowledge but not for headings. A significant interaction between prior knowledge and headings was present for main idea, but not detail items. Sub-

jects with high prior knowledge performed significantly better with headings on multiple-choice items that assessed main idea. A reanalysis of the data confirmed that the prior knowledge effect could not be attributed solely to vocabulary knowledge.

IV-6 Auditory perception

BRADY, SUSAN; MANN, VIRGINIA; & SCHMIDT, RICHARD. Errors in short-term memory for good and poor readers. *Memory & Cognition*, September 1987, *15*, 444-453.

Presents two experiments studying differences in the phonetic coding strategies of good and poor readers on a short-term memory task. In each experiment, the task was to repeat lists of spoken nonsense syllables in which the phonetic similarity of the initial consonants had been manipulated. Subjects in Experiment 1 were 14 good and 14 poor readers in grade two; for Experiment 2, there were 14 good readers and 16 poor readers in grade three. Pupils listened to and repeated four-item lists of consonant-vowel syllables in which each consonant shared zero, one, or two features with other consonants in the string. Poor readers made more recall errors than did good readers. Both groups tended to make errors of consonant transposition. Poor readers tended to use the same phonetic processes in short term memory as good readers but were less proficient.

PERFETTI, CHARLES A.; BECK, ISABEL; BELL, LAURA C.; & HUGHES, CAROL. Phonemic knowledge and learning to read are reciprocal: A longitudinal study of first grade children. *Merrill-Palmer Quarterly*, July 1987, *33*, 283-319.

Investigates the claim that the relation between phonemic knowledge and learning to read is reciprocal. In a longitudinal study, 82 first graders were tested at four points throughout the year on tasks of synthesis (phoneme blending) and analysis (deletion and tapping). The subjects were three groups of beginning readers, one taught by systematic direct code instruction and two taught by a basal reader series that does not use direct phonics instruction. There were two year-end measures of reading, scores on the WRAT and pupils' progress through the curriculum. Analyses of the tasks emphasized the differing cognitive demands of phoneme synthesis and phoneme deletion. According to the results of partial time-lag correlations, the deletion task in particular taps a phonemic knowledge that is truly reciprocal in its relation to reading. Gains in reading enable gains in deletion which enable further gains in reading. The synthesis tasks taps a more primitive phonemic knowledge that has a simple (nonreciprocal) enabling relationship with reading gain.

IV-7 Visual perception

BLANCHARD, JAY, & LOGAN, JOHN. Letter-naming knowledge in kindergartners: What's happening? *Reading Psychology*, July-September 1988, *9*, iii-xi.

Gathers data from six kindergarten classrooms at the beginning of the school year to determine how many children could identify the letters of the alphabet. The 107 pupils were asked to identify lowercase and then uppercase letters, printed randomly. Means and standard deviations, respectively, were 9.04 and 8.31 for lowercase letters and 6.32 and 8.40 for uppercase letters. Only 15% of children knew 20 or more lowercase letters, while more than 50% knew eight or fewer. For uppercase letters, 80% recognized fewer than eight and 12% knew 20 or more.

REISER, ROBERT A.; WILLIAMSON, NAJA; & SUZUKI, KATSUAKI. Using "Sesame Street" to facilitate children's recognition of letters and numbers. *Educational Communication and Technology Journal*, Spring 1988, *36*, 15-21.

Designs a study to identify the unique contributions of attention, questions, and feedback in facilitating children's recognition of the letters and numbers presented on "Sesame Street." Subjects were 95 three- and four-year-olds attending nine different preschools. Instructional materials consisted of three specially edited videotapes of "Sesame Street," each containing three segments for each of the following concepts: the letters P, Q, V, and W and the numbers 6 and 9. Children were assigned randomly to view the three videotapes with an adult in one of four treatment conditions: adult (1) asked questions and provided feedback about the letters and numbers, (2) asked questions but did not provide feedback, (3) drew the child's attention to the screen while the letters and numbers were being presented, and (4) merely watched the show with the child (control condition). A pre- and posttest assessed ability to name and identify the letters and numbers presented. Data were analyzed by means of ANCOVA with pretest scores serving as the covariate. The Questions ± Feedback group and the Questions group performed significantly better than controls; no other significant differences were found among the treatment conditions.

MARMUREK, HARVEY H.C. Reading ability and attention to words and letters in words. *Journal of Reading Behavior*, 1988, *20*(2), 119-129.

Examines the size of visual units attended to by children of different reading levels. Subjects in grades 2, 4, and 6 performed a main task (deciding whether two words matched or deciding whether a single letter target matched the first letter of a word) and some subsidiary tasks. The expectancy of the size of the unit critical to a response on the main task, and the location of the critical stimuli on the subsidiary task, were varied. On a subset of trials, a single-element probe character was presented at randomly determined positions within the expected, but not presented, word. Classification of those probe stimuli constituted the subsidiary tasks. The difference in latencies to probes that appear in different positions was used to index the extent of attention used in preparation for the main task. Significant main effects for grade and comparison were found. Latencies decreased with age, and latencies for whole-word comparisons were faster than for first-letter comparisons. Similar results were found when probe latencies were analyzed. Regression analyses did not support a strong relation between reading ability and visual processing. Reading ability predicted the first-position advantage on first-letter probe trials, but did not predict the whole-word advantage on the main task.

WALKER, PETER. Word shape as a cue to the identity of a word: An analysis of the Kucera and Francis (1967) word list. *Quarterly Journal of Experimental Psychology*, November 1987, *39*, 675-700.

Examines all of the 3-, 4-, 5-, 6-, and 7-letter words appearing in the Kucera and Francis corpus to derive information about the distribution of word shapes in printed lowercase English. Numbers in the analysis were 439, 1392, 2378, 3551, and 4413, respectively. Words were analyzed to determine the frequency, per 1000 words, with which each single letter and each bigram appeared in each position with words of a particular length. Additionally, for every word, the summed single-letter positional frequency and summed bigram positional frequency were determined. Next, for each word shape the average summed single-letter frequency and the average summed bigram frequency were found. Finally, the average value for word frequency was established for each word shape on two different bases. A table is given presenting correlation coefficients relating word-shape frequency (the number of words sharing a particular shape) to the average single-letter frequency, the average bigram frequency, and the average logarithmic word frequency. Word shape frequency was

not correlated with natural language word frequency, suggesting that while high frequency words may be identified in part on the basis of their shape, this is not facilitated by their possession of relatively rare shapes.

LEVY, BETTY ANN, & KIRSNER, KIM. Reprocessing text: Indirect measures of word and message level processes. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, May 1989, *15*, 407-417.

Examines, in three experiments, word- and text-level transfer after different reading experiences. Subjects in Experiment 1 were 40 Australian undergraduates; in Experiments 2 and 3, subjects were 40 and 80 Canadian university undergraduates. In Experiment 1, students were assigned at random to either a text or word set group. Materials consisted of five 525-word texts, each containing 50 propositions divided in 10 paragraphs. Embedded in each text were 40 target words, none appearing more than once in any of the texts, with four targets in each paragraph. Target words were presented in isolation or in text context. The five texts or word sets were presented in lowercase, uppercase, handwritten, auditory or new conditions. Subjects in the text condition were told to read or listen to comprehend; subjects in the word isolation condition were told to remember the words. Perceptual identification and item recognition tests followed, all flashed on a screen. Results indicated that facilitation in the later perceptual identification of a word occurred when the word was read as part of a word set but not when it was read as part of meaningful text. The other two experiments indicated that transfer at the text level occurs when the reprocessing measure involves the entire text, rather than words taken from the text. This text reprocessing effect also exhibited data-driven indicators and was indifferent to the subject's reading strategies. It was specific to the text originally read, with no generalization to texts of the same structure. Results are interpreted as suggesting caution in interpreting transfer measures when the original and reprocessing tasks are at different linguistic levels.

GRAVESON, LUCIE, & STANDING, LIONEL. Recognition of form and of orientation by poor and normal readers. *Perceptual and Motor Skills*, October 1986, *63*, 735-741.

Compares the performance of normal and poor readers on visual recognition tasks. Seventeen normal and 17 poor readers from grades 7, 8, and 9 were presented with two visual recognition tasks. In Task I, subjects viewed a standard stimulus and then identified the stimulus from among four choices. In Task II, subjects identified the orientation of the stimulus. Both tasks were presented under two time delays between presentation of the stimulus and the test array: a short delay of 0.5 sec to measure the perceptual condition, and a longer delay of 15 sec. to measure the memory condition. A 2 × 2 ANOVA for Task I revealed no significant difference in performance between normal and poor readers at either time delay. However, on Task II, normal readers made significantly more correct responses on the memory delay but not on the perceptual delay. Subsequent analysis examined the types of orientation errors made. The best single predictor of the poor readers' individual reading performance was up-down mirror-image errors at the perceptual delay.

ALLEGRETTI, CHRISTINE L., & PUGLISI, J. THOMAS. Disabled vs nondisabled readers: Perceptual vs higher-order processing of one vs three letters. *Perceptual and Motor Skills*, October 1986, *63*, 463-469.

Compares disabled and normal readers on a letter-search task separating perceptual processing from higher-order processing. Subjects were 24 fifth- and sixth-grade pupils, 12 in each group. Children viewed single letters, three-letter nonwords, and three-letter words projected on a screen. They were presented a first stimulus for 200 msec followed by a second stimulus immediately to estimate the amount of information initially perceived or after a

3,000 msec interval to determine information more permanently stored. Shown was a letter followed by a three-letter combination or the reverse. Children were to decide whether a letter in the first stimulus also appeared in the second. Disabled readers made fewer correct responses with the immediate interval than with the delayed interval, whereas normal readers' responses did not differ significantly in the two conditions. Disabled readers made fewer errors when processing one letter than three; normal readers did not differ significantly in the two. The two groups did not differ in the one-letter condition.

VAN DER VELDE, FRANK; VAN DER HEIJDEN, A.H.C.; & SCHREUDER, ROBERT. Context-dependent migrations in visual word perception. *Journal of Experimental Psychology: Human Perception and Performance*, February 1989, *15*, 133-141.

Presents three experiments investigating the effect of contextual information on letter migrations, i.e., interactions between words presented simultaneously in a visual word display such that there are recombinations of letters or groups of letters forming words not originally present in the display ("line" in "line-lace" reported as "lane" or "lice"). Subjects were all students at the University of Leiden and all native speakers of Dutch. They numbered 31, 26, and 23, respectively, in the three experiments. Words were presented under two stimulus conditions: one where migrations were possible and one where the migrations cannot occur. Distractor pairs could be preceded by a prime related to "lane" but not to "lice." This was interpreted as showing that higher order word knowledge, in the form of semantic relations between words, influences migrations. Additionally it was shown that the number of migration errors were not a result of only a summation of activation from the letters in the display.

SOLMAN, ROBERT T. The use of intra-word contextual constraint in letter identification. *Australian Journal of Psychology*, August 1988, *40*, 311-321.

Compares identification accuracy for more and less highly constrained letters in conditions where the critical letter was not displayed. Subjects were 56 students at the University of South Wales, each assigned at random to one of four types of four-letter string groups. Four types of arrays were used: (1) unpronounceable non-words, (2) pronounceable non-words, (3) words in which the critical letter was minimally constrained by the context, and (4) words in which the critical letter was maximally constrained by the context letters. Stimuli were manipulated in various ways including the presence or absence of the critical letter. No reliable differences were obtained in the naming accuracy of more highly and less highly constrained critical letters in the presence of reliable word superiority effects. The Interactive Activation Model of word perception argues that information from the noncritical context letters will be used in specified circumstances to fill in the missing letter. In particular, the model predicts more accurate naming responses in the high-constraint versus the low-constraint conditions. Inasmuch as results did not support this prediction, that aspect of the model was felt to need reconsideration.

SAINT-JOHN, LOUISE M., & WHITE, MICHAEL A. The effect of coloured transparencies on the reading performance of reading-disabled children. *Australian Journal of Psychology*, December 1988, *40*, 403-411.

Notes the effect of colored transparencies on the reading performance of 11 RD children and 11 controls. Pupils were sixth graders from two primary schools in Northern Tasmania. Mean CA was 10-6, and mean IQ was approximately 110. Mean difference between groups in RA on the *Neale Analysis of Reading Ability* was 36.5 months. Two tasks were presented, a reading task and a reading-like letter-identification task. For the reading task, three passages were read orally in a pretest and then in a posttest, but with the aid of plain frames, polaroid lenses (placebo), or individually selected color transparencies. For letter identification, the task was to recognize a randomly selected letter presented randomly in any

of 15 positions across a visual field. The control, placebo, and experimental color viewing conditions were used again. No placebo effects or effects attributable to the color transparencies were noted.

CONSTABLE, HILARY; CAMPBELL, BOB; & BROWN, RON. Sectional drawings from science textbooks: An experimental investigation into pupils' understanding. *British Journal of Educational Psychology*, February 1988, *58*, 89-102.

Designs a study to determine whether British first-year secondary pupils (age 11) were able to identify the cut surfaces of objects in six illustrations taken from published textbooks. Twelve groups of 12 pupils each completed two or three tasks including coloring the cut surfaces of illustrations from textbooks. Children were unable to identify the cut surfaces in five of the six illustrations shown. Illustrations were not equally difficult. Features of the object depicted as well as the number and type of pictorial conventions employed poised difficulties.

CUNNINGHAM, THOMAS F.; HEALY, ALICE F.; KANENGISER, NANCY; CHIZZICK, LYNNE; & WILLITTS, REBECCA L. Investigating the boundaries of reading units across ages and reading levels. *Journal of Experimental Child Psychology*, April 1988, *45*, 175-208.

Employs a letter-detection task to investigate the process of silent reading in children and adults. By manipulating the spaces or characters adjacent to a target letter, the researchers hoped to infer the amount and type of processing given an item. The task required subjects to circle or cancel occurrences of a target letter while reading a prose passage. In Experiments 1 and 2, 24 first-, third-, and seventh-grade children and college subjects circled the letter *a* while reading passages constructed of words familiar to first graders. First graders made more errors on the letter *a* embedded in a word than on the word *a*, whereas the converse was true of the other age groups. In Experiments 3 and 4, first-, second-, fourth-, and seventh-graders as well as college students read passages and circled the letter *t*, making more errors on the common word *the* than on the other words, and more errors on correctly spelled than on misspelled words. The effect of misspelling the other words increased with age and reading skill. Results suggest that reading unit size increases with age and reading ability and that, whereas younger children, like adults, unitize common words, the unitization of less common words increases as word configurations become more familiar.

BRANNAN, JULIE R., & WILLIAMS, MARY C. Allocation of visual attention in good and poor readers. *Perception and Psychophysics*, January 1987, *41*, 23-28.

Compares visual attentional shifts in children and adults. A sample of 6 poor readers (average age 10.67 years), 6 good readers (average age 9.5 years), and 4 adults were administered the same visual task. Subjects were asked to detect briefly presented target letters. Cues preceding the target were accurate or false and the probability of cue accuracy was either 50% or 80%. The time between presentation of cue and target was also varied. A four-way ANOVA was employed that examined subject group, probability condition, time between presentation of cue and target, and cue prediction. Significant main effects were found for probability condition, time between presentation of cue and target, and cue prediction, but not for subject group. A significant interaction between groups and probability condition showed that the effect of probability condition varied across subject groups. A significant three-way interaction between subject group, probability condition, and cue prediction revealed that poor readers did not use cue prediction as effectively as good readers and adults. Poor readers also exhibited significantly lower accuracy when the interval between cue and target was short, but demonstrated equal accuracy when the interval reached 150 msec or more. Good readers and adults had significantly higher accuracy rates for targets appearing on the right versus the left, but no difference in direction was found for poor readers.

IV-8 Reading and language abilities

TIERNEY, ROBERT J., & MCGINLEY, WILLIAM. Exploring reading and writing as ways of knowing. *Thirteenth Australian Reading Association Conference Proceedings*, 1987, 19-32.

Reviews the literature, primarily that within the last decade, on the connection between reading and writing as ways of knowing. The authors conclude that when the two work together they have great potential. It is hypothesized that the two working together form a symbiotic relationship in which the impact is greater than the sum of the separate impacts.

SHANAHAN, TIMOTHY. The reading-writing relationship: Seven instructional principles. *Reading Teacher*, March 1988, *41*, 636-647.

Identifies seven instructional principles that are derived from the research literature on reading-writing relations and offers specific instructional techniques for each principle. The principles are (1) teach both reading and writing; (2) introduce reading and writing from the earliest grades; (3) reflect the developmental nature of the reading-writing relation; (4) make the reading-writing connection explicit; (5) emphasize content and process relations; (6) emphasize communications; and (7) teach reading and writing in meaningful contexts.

BROWN, DAVID L., & BRIGGS, L.D. Collaborative learning: Bridging the gap between reading and writing. *Reading Improvement*, Winter 1987, *24*, 278-281.

Reviews selected literature that reinforces the relation between the processes of reading and writing, cites research on literacy development, and draws implications for educational practice.

SPIVEY, NANCY NELSON, & KING, JAMES R. Readers as writers composing from sources. *Reading Research Quarterly*, Winter 1989, *24*, 7-26.

Studies developmental differences and differences associated with grade and with reading ability in the ability of students to select, organize, and connect content from sources in writing their own texts. Participants were 20 subjects each at grades 6, 8, and 10. At each grade level, half of the subjects were designated as accomplished readers and half as less accomplished readers based on scores from the Reading Comprehension subtest of the CTBS. Subjects were asked to write a report using information from three sources. Variables analyzed included four measures of features of the final composition and three measures of task management. Developmental patterns were found in selecting and connecting of content, while reading ability patterns were found in organizing, selecting, and connecting. Accomplished readers developed more elaborate written plans and also spent more time on the task.

KONOPAK, BONNIE C.; MARTIN, SARAH H.; & MARTIN, MICHAEL A. An integrated communication arts approach for enhancing students' learning in the content areas. *Reading Research and Instruction*, Summer 1987, *26*, 275-289.

Investigates the effects of an integrated communication arts procedure on the comprehension of social studies content. Three intact, eleventh-grade history classes were randomly assigned to three instructional conditions which lasted three days each. A writing group received a modified version of the Guided Writing Procedure. After a topic brainstorming session, they prepared an explanatory writing sample, and, at the following session, they revised their explanatory writings. A non-writing group received the same activities but completed a word-search puzzle in lieu of the writing activities. A control group completed the word-search puzzle. All subjects were administered a prior knowledge pretest of the passage topic, and two posttests, a written recall and a multiple-choice comprehension measure. An analysis of the results found no significant difference among the three groups on the comprehension

measure. However, the writing group generated higher quality ideas on the writing posttest and better synthesized information from multiple sources.

NORRIS, JANET A., & BRUNING, ROGER H. Cohesion in the narratives of good and poor readers. *Journal of Speech and Hearing Disorders*, November 1988, *53*, 416-424.

Compares the decontextualized use of language between good and poor beginning readers. A total of 150 children (75 in kindergarten and 76 in first-grade) were classified as good or poor readers on the basis of the CAT and a teacher rating score. Subjects were shown a picture story and asked to recount the story to a puppet without the support of the pictures. Oral stories were transcribed and scored for propositional analysis and cohesion. Results revealed that good readers produced longer stories and better quality propositions. No grade level differences were found, however, for propositional analysis. Poor readers exhibited less cohesion in their stories than good readers. Discriminant function analysis was used to identify cohesive characteristics that differentiated good and poor readers. When the proportional number of cohesive ties was analyzed, use of demonstratives and ellipsis of nominal information from the surface structure were distinguishing characteristics of poor readers; whereas, use of temporal and causative conjunctions and the lexical strategies of reiteration and collocation were characteristics of good readers. When accuracy in the use of cohesive ties was analyzed, the use of additive conjunctions was a distinguishing characteristic of low achievers; whereas, use of personal reference, demonstratives, causal conjunction, and the lexical stragegy of collocation were characteristics of high achievers.

SCHEWE, ANNETTE, & FROESE, VICTOR. Relating reading and writing via comprehension, quality, and structure. In John E. Readence & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 273-279.

Seeks to further define the nature of the reading-writing relationship by exploring variables linking fourth graders' reading comprehension and writing ability. Subjects were all 36 children from two schools in Winnipeg. Pupils were divided into three ability levels on the basis of reading scores. Reading assessments, specifically constructed for the study, required subjects to read and retell a passage and then to orally respond to a probed recall of omitted propositions, as well as other comprehension probes. Writing samples were collected over a four-week period, segmented into t-units and propositions, analyzed for story grammar categories, and also rated for quality. Overall, findings of the study indicated that reading comprehension measures and writing ability measures were significantly related. A statistically nonsignificant coefficient was found between the total number of propositions recalled in reading and the total number of propositions produced in writing. Yet inferential comprehension abilities in reading and evidence of story grammar elements in writing were related at a statistically significant level ($r = .45$). Although all measures of reading ability were valid predictors of writing quality, inferential probes were the best predictors of overall writing performance. Further, inferential probes were valid predictors of story grammar usage in writing. ANOVA results revealed that those subjects who were the most proficient writers tended to use their story grammar knowledge more efficiently in structuring their written products than did their less proficient counterparts in both average and low writing ability groups. Although all components of the writing scale were significantly related to the overall writing quality score, mechanics and story grammar were the best predictors of writing ability, accounting for 91% of the variance in writing scores.

JORDAN, NANCY C. Language processing and reading ability in children: A study based on speech-shadowing techniques. *Journal of Psycholinguistic Research*, September 1988, *17*, 357-377.

Examines language processing facility in good and poor readers using two speech-shadowing experiments. Subjects were 54 pupils from the second, fifth, and eighth grades selected on the basis of reading ability such that 9 good readers and 9 poor readers were included at each grade level. The first experiment manipulated rate of presentation to study speed of processing auditory-linguistic information. Subjects were required to shadow intact language samples presented at three different rates. Good readers were superior to poor readers in their ability to maintain shadowing accuracy at increased rates of presentation, although the performance patterns of the two groups varied according to grade level. In the second experiment, good and poor readers shadowed sentences exhibiting different degrees of grammatical acceptability. Subjects were presented with blocks of normal sentences, semantically anomalous sentences, and unstructured word strings presented at a normal rate. Unstructured word strings, without syntactic coherence, penalized good readers more than poor readers, relative to their performance on syntactically appropriate constructions. Poor readers did not differ from good readers in their sensitivity to semantic cues. Pearson product-moment coefficients of correlation were calculated to examine the interrelation among shadowing, reading, and other language tasks. The data suggested commonalities across the linguistic variables. Shadowing performance correlated more highly with vocabulary and reading than with sentence comprehension. It was suggested that the results of the experiments supported the hypothesis that processing spoken language and reading are closely connected.

REUTZEL, D. RAY, & HOLLINGSWORTH, PAUL M. Children's development of story structure awareness in dictated language experience stories. *Reading Improvement*, Summer 1987, *24*, 74-80.

Seeks to determine whether stories based on children's personal experiences exhibit developmental ordering and use of story grammar categories. Language experience stories from 60 Utah children in kindergarten, first, and second grade classes were analyzed using two discourse analysis procedures. First, story grammar categories were used to determine the extent to which the subjects' stories conformed to an idealized narrative form; second, the number of idea units for each story was determined. A chi square analysis was used to determine if significant growth occurred for the story grammar categories across age groups. The analyses revealed significant developmental differences in two grammar categories, attempts and resolution. The mean number of idea units across grade levels was analyzed using ANOVA. Results indicated there was a significant difference among the number of idea units in the language experience stories across grade levels; post hoc mean comparison revealed a significant difference between kindergarten and first grade stories, but no difference between first and second grades. No difference was found between the length of subjects' stories (as determined by the number of ideas units) and the total number of story grammar categories.

MCGEE, LEA M.; LOMAX, RICHARD G.; & HEAD, MARTHA H. Young children's written language knowledge: What environmental and functional print reading reveals. *Journal of Reading Behavior*, 1988, *20*(2), 99-118.

Describes children's attempts to read familiar print items representing a wide variety of written language units such as single letters, numbers, words, phrases, and sentences. Subjects included 20 three-year-olds, 23 four-year-olds, 20 five-year-olds, and 18 six-year-olds. Children were assessed for their ability to read isolated words with the *Basic Reading Inventory* and for letter name knowledge with the *Diagnostic Survey*. One environmental print item (potato chip bag) and eight functional print items (telephone directory, *TV Guide*, grocery list, letter, newspaper, book, map, and coupon) were used in eliciting reading responses. Responses were judged for whether they attempted to read or refused to respond. Attempts to read were then scored for whether they included, partially included, or did not include text from the print item; for whether or not they were meaningful; and for whether they indicated attention to graphic detail. Children were categorized as nonword readers,

novice word readers (could recognize 1 to 10 words), and expert word readers (11 or more words). Children were more likely to attempt to read than to refuse or attempt to change the task. Over 75% of attempts to read were meaningful; over 35% included text from the print; about 50% showed attention to graphic detail. Differences were noted between attempts to read the environmental print item and the functional print items.

WATSON, ALAN J. Cognitive development and units of print in early reading. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 93-118.

Reviews theory and research on attaining concepts of the units of print and presents evidence which tests a cognitive developmental view of this task. In a longitudinal study, the investigator examined the relation of conceptual reasoning (operativity), oral language, print awareness, and reading during the first three school years. The hypothesis to be investigated was the extent of the effect of operativity on awareness of units of print. The subjects were middle-class children in Sydney, Australia. In the first year, the sample consisted of 148 subjects, with an average age of 5-10. In the second and third years, sample size was 142 and 137, respectively. Reading was assessed with a group-comprehension measure and with an individual test of graded words, both devised for use in Australian schools. The *Units of Print* test was a group measure devised for the study to determine the child's ability to identify units of print from distractors. Two tasks, adapted from Piaget's work, were used as indices of operativity: seriation and perceptual regulation. A Perceptual Ambiguity test determined whether children could identify the most salient aspect of an ambiguous line drawing. In addition, two aspects of oral language were administered: The Grammatic Closure test from the ITPA was used to measure syntactic prediction, and the PPVT was used to assess lexical knowledge. The operativity and oral-language tasks were administered at the end of kindergarten and grade one; the language awareness and reading measures were given at the ends of grade one and two. The principal finding of the study was that conceptual reasoning (operativity) seems to have direct and indirect causal effects on the child's understanding of the units of prints. These effects operate over and above the influence of oral language and the influence of reading ability. Both oral language and reading seem to make important contributions to the emergence of language insights, but the researcher argues that no explanation of print awareness seems adequate which overlooks the impact of the child's underlying cognitive development.

COLLINS, JAMES. Using cohesion analysis to understand access to knowledge. In David Bloom (Ed.) *Literacy and Schooling*. Norwood, NJ: Ablex Publishing Corporation, 1987, 67-97.

Seeks to identify some aspects of children's conversational strategies which seem to affect their acquisition of literacy skills by taking into account both the complex microenvironments of the typical classroom as well as the larger political forces which shape the school. The researcher presents a school and community investigation designed to develop a fuller account of the relations between language use, instructional strategies, and ability grouping, testing hypotheses about the importance of discourse style and ability grouping on classroom interactions. Both a second and third grade classroom on Chicago's southside were observed and audiotaped during reading lessons over a four-month period. Notes were kept on the physical layout of the reading group, the procedures used for assigning reading turns, disruptions caused by other class members (outside the reading group) and observable indications of attention/inattention on the part of students and teachers. In addition, community and parent interviews were conducted, students were administered the reading subtests of the ITBS, and students' reading and discourse skills were assessed in a narrative experiment. Each classroom had approximately the same reading levels and turn-allocation procedures, but each teacher exhibited different styles. For example, the teachers differed in their re-

sponses to and ability to use Black English Vernacular during instructional exchanges. They also differed in the types of comprehension questions they posed – comprehension-preparing versus assessing. Finally, they differed in the average amount of time spent with low-ability groups. The teacher who was more adept at code switching tended to rely on a comprehension-preparing strategy and also spent slightly more time in low-group lessons. Both teachers, however, were characterized as exhibiting a comprehension-oriented teaching style. Eight of 26 observed lessons were analyzed in detail, focusing on turn disruption, the extent of incorporation of children's answers into subsequent questions (uptake), and coherence, or the processes interfering with the maintenance of topic during question turns. A comparison of high and low groups in each class indicated that more turn disruptions, inattention, teacher incorporation of previous answers, and conflicting inferences occurred in low group lessons. Finally, a narrative experiment provided evidence that subjects' classroom-independent discourse skills had little bearing on the coherence found in their classroom reading lessons.

McKeown, Gerry, & Freebody, Peter. The language of aboriginal and non-aboriginal children and the texts they encounter in schools. *Australian Journal of Reading*, June 1988, *11*, 115-126.

Asks whether the oral discourse of Aboriginal and non-Aboriginal children differs in various structural ways and whether there is a mismatch between the oral language of Aboriginal children and the textbook language. Participants were 14 Aboriginal children from years four to seven and 14 non-Aboriginal children from year six, attending a primary school in a remote northern Australian town. Oral discourse samples were collected in interview situations with groups of two or three children and were analyzed with cohesion, macrostructure, and meta-linguistic measures. Eighteen text samples were collected from each of two basal reader series and one science text series. The two groups were found to be essentially similar with regard to oral language. Expository texts were different from oral discourse in the use of some formal literate structures and metalinguistic devices.

James, Sharon L. The development of oral language and reading. In Carolyn N. Hedley & John S. Hicks (Eds.) *Reading and the Special Learner*. Norwood, NJ: Ablex Publishing Corporation, 1988, 91-107.

Review research on the relation between oral language abilities and reading and identifies that the most recent research has focused on metalinguistic abilities rather than primary linguistic abilities. Studies addressing (1) delineation of metalinguistic development, (2) investigation of the relation between metalinguistic abilities and reading, and (3) implications for children with language and reading disabilities were discussed.

Dickinson, David K. Oral language, literacy skills, and response to literature. In James R. Squire (Ed.) *The Dynamics of Language Learning*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills, 1987, 147-183.

Examines the research literature dealing with the relations among oral language, reading, writing, and response to literature with particular stress upon early acquisition. Four kinds of relations were identified: (1) dependence upon language-processing strategies, (2) interdependence of knowledge structures, (3) support of acquisition of literacy with speech, and (4) independence of the different modalities. Relations found among oral language, reading, and writing support the assumption that oral language competence is essential to acquiring literacy skills. Suggestions for needed research are included.

Groshong, Claudia Clark. Assessing oral language comprehension: Are picture-vocabulary tests enough? *Learning Disabilities Focus*, Spring 1987, 2(2), 108-115.

Uses both picture and sentence contexts to determine whether they are equally effective in aiding the comprehension of LD and average six- and eight-year-old children. Subjects consisted of 40 children with average receptive vocabulary as determined by the PPVT. Children were divided into two age groups (six and eight years old) and two language groups (average and language disabled). Three tasks were administered to assess the effect of pictures and oral sentence context on vocabulary comprehension, two oral ambiguity detection tasks and a sentence context task. Tasks assessed the ability to detect multiple word meanings in ambiguous sentences with and without picture choices and the ability to identify which word meaning was appropriate in a particular sentence context. LD children did not show average growth in these abilities over the two-year age span. Average pupils had significantly higher scores on all oral tasks but did not perform significantly better than LD pupils on the picture task. The author concluded that oral language assessment should include sentence comprehension measures and should compare responses on picture and oral tasks.

ROMAN, G., & PAVARD B. A comparative study: How we read in Arabic and French. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 431-440.

Gives results of three experiments comparing reading processes in French and Arabic. In Experiment 1, subjects were 12 French speaking Algerian university students and 12 Arabic speaking university students. Eye movements were recorded as subjects read four short texts, in French and nonvowelized Arabic. Fixation patterns and mean reading time did not differ between texts, but gaze duration per word was longer in Arabic than in French. For Experiment 2, 12 Arab university students read the Arabic texts of the first experiment in vowelized format. Vowels significantly reduced reading speed and increased the number and duration of fixations. For Experiment 3, 40 Arabic university students were assigned to one of four conditions in which they were asked to make lexical decisions. The presence of vowels significantly increased decision latency. It was concluded that lexical access of concatenative languages (morphemes follow one another linearly) such as French or English may be different from access in nonconcatenative languages such as Arabic or Hebrew.

YAMADA, JUN; MATSUURA, NOBUKAZU; & YANASE, YOSUKE. Does knowledge of romaji facilitate English reading? *Journal of General Psychology*, July 1988, *115*, 229-239.

Examines the relation between Japanese pupils' knowledge of romaji (Roman letters) and their ability to read English words prior to formal instruction. Subjects were 78 grade seven pupils from two classes attached to a Hiroshima university. Two tests were utilized: a Japanese-language romaji reading test and an English-language reading test. The former included five romaji words and two short sentences while the latter included 24 English words. Pupils were asked to rewrite the romaji and English words into hiragana, a cursive syllabary, and each response was examined for scoring. Correlation coefficients between the romaji and English words ranged from .40 for long words with low similarity between romaji and English to .53 for short words with high similarity between the two languages.

FLOYD, PAMELA, & CARRELL, PATRICIA L. Effects on ESL reading of teaching cultural content schemata. *Language Learning*, March 1987, *37*, 89-108.

Investigates the effects of instruction that helps to build ESL students' culture-specific background knowledge on the students' subsequent text comprehension. Subjects were 20 all intermediate-level ESL students attending the intensive English program at the Center for English as a Second Language at Southern Illinois University. Two classes served as the experimental group (N = 10) and a third class was the control (N = 10). Subjects were asked to read one of two versions of letters differing in syntactic complexity that described a Fourth of

July celebration in Boston. Participants' comprehension of the text was judged by responses to both pre- and post-administrations of an objective test and a written free recall of the information. Training consisted of two sessions of 50 minutes each in which the experimental group was taught appropriate cultural background information, emphasizing relevant text vocabulary; the control group followed the regular curriculum. Controlling for the variance contributed by the pretests, there were statistically significant differences between the experimental and control groups on both the recall and objective tests. A one-way ANCOVA yielded no statistically significant difference on subjects' performance between the syntactically easy and the more difficult versions of the letter.

WALTERS, JOEL, & WOLF, YUVAL. Language proficiency, text content and order effects in narrative recall. *Language Learning*, March 1986, *36*, 47-64.

Examines the effects of language proficiency, text content, and order of presentation on the recall of narratives. Three versions (the standard order, partially-mixed, and fully-scrambled) of three brief narratives were presented along with a list of unrelated sentences to non-native English speaking university subjects. Subjects were classified as intermediate and advanced students of English as a Foreign Language (EFL), or fluent English users (FLUENT). Each subject read four texts in succession and then wrote a recall of each in English. Each recall statement was scored as accurate or inaccurate. Results showed that FLUENT readers recalled significantly more, and in a qualitatively more regular pattern than EFL readers. Significant quantitative and qualitative differences in recall were also observed for text content. Significant differences were found for order of presentation. Recall was higher for standard and partially-mixed orders than for fully-scrambled versions. In addition, mixing the order of presentation appeared to have a greater effect on the EFL readers than on the FLUENT readers.

ANDERSON, PEGGY L. Productivity, syntax, and ideation in the written expression of remedial and achieving readers. *Journal of Reading, Writing, and Learning Disabilities*, 1988, *4*(2), 115-124.

Compares the written expression of normal and remedial readers. Fifty-six fourth graders and fifty-six fifth graders were classified as remedial or normal readers on the basis of the CTBS. At each grade level 28 remedial readers were matched with 28 normal readers. All pupils produced written stories in response to a prompt from the Peabody Language Development Kit. The written products were scored using criteria from the *Picture Story Language Test*. The written products were scored for productivity (number of words produced), syntax (correctness of word usage, word endings, and punctuation), and ideation (level of abstraction). Two-way ANOVAs revealed significant main effects for each aspect of writing in favor of the normal readers. Poor readers produced significantly less language, committed a significantly greater proportion of grammatical errors, and wrote at the concrete-descriptive level more than the abstract. A secondary analysis examined the specific types of errors made in more detail.

YULE, VALERIE. The design of spelling to match needs and abilities. *Harvard Educational Review*, August 1986, *56*, 276-297.

Addresses the importance and timeliness of systematic changes in the spelling of English and considers the wide range of learning needs of language users as well as the traditional assumptions which account for the resistance to spelling change. The author posits that English spelling not only makes the achievement of literacy generally difficult but results in the uneven distribution of power and opportunity. She argues, for example, that English language-learners require spoken and written languages that are reasonably compatible. In addition, she proposes areas for research that could lead to solutions to these difficulties,

including identifying the best possible match of spelling to fit the nature of the English language, and the possibility of universal literacy.

IV-9 Vocabulary and word identification

MATTINGLY, IGNATIUS G. Reading, linguistic awareness, and language acquisition. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 9-25.

Considers the relation of listening and reading to argue that reading involves not only the mechanisms of speech understanding but also those of language acquisition, and that reading text is just as natural, and in a sense more linguistic, than listening to speech. Evidence is reviewed that seeks to clarify the relation of reading to speaking and listening. Evidence is examined that derives from consideration of practical orthographies and their relation to linguistic structure. Also considered is evidence from experimental studies in which performances on tasks similar to reading are compared with performances on tasks which involve production or perception of spoken language. It is concluded that written language places a direct demand on the reader's acquired knowledge of language or grammatical knowledge. The processes of language and literacy acquisition are similar in that grammatical knowledge must be accessible to the language learner and to the beginning reader; i.e., reading is also a language-acquisition procedure.

VALTIN, RENATE. Awareness of features and functions of language. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 227-260.

Summarizes research findings on phonemic awareness, especially in regard to the precise nature of the roots of phonemic concepts and the relation of phonemic awareness to literacy acquisition. Evidence is also presented concerning the preschool child's implicit awareness of the communicative function of language. The reviewer points out that it is important to differentiate between two components of language awareness: a) the ability to reflect on language forms while abstracting from the meaning aspect and paying attention to sound properties of language; and b) the ability to identify phonemes and to manipulate phonemic segments. Also addressed are methods of assessing language awareness and pedagogical implications regarding different stages of the development of metalinguistic knowledge.

VALTIN, RENATE. The development of metalinguistic abilities in children learning to read and write. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 207-226.

Attempts to clarify the concept of linguistic awareness by analyzing the various phenomena of language awareness and by offering a theoretical framework. The framework allows a differentiation between various forms of awareness and suggests their developmental order and their relation to the learning of written language. The model claims that linguistic notions of word and phoneme are acquired primarily through reading and spelling instruction. Selected research is presented that illustrates how the preschool child's concept of a word undergoes a transformation under the influence of reading instruction from a multiple-core concept of a word to a concept that is mainly oriented to visual strategies.

TORRANCE, NANCY, & OLSON, DAVID R. Development of the metalanguage and the acquisition of literacy: A progress report. *Interchange*, Spring/Summer 1987, *18*(1-2), 136-146.

Summarizes the results of a series of three studies on children's developing understanding of the distinctions between what a text says, as opposed to the interpretations readers or listeners may make from that text, referred to as the "say/mean" distinction. The researchers examined the ability of children drawn from kindergarten through grade five classes to make distinctions between speakers' (characters') utterances and their intentions. Study 1 examined the developing ability of children from kindergarten to grade four to differentiate the literal meaning of a sentence from the intended meaning of that sentence. Results showed that children in later grades were more likely to notice the distinction between what a speaker in a story said and what that character meant. Study 2 was an attempt to replicate Study 1, but data were collected from children in grades one, three and five in a different school. Essentially the same results were obtained: By grade three, some of the children could correctly distinguish a character's utterances from the intention, and by grade five, almost all the children could recognize the ambiguity of such statements. Study 3 attempted to determine if young children's failure to report what a speaker had actually said was due to limited memory rather than to a said/meant confusion. Subjects were asked to recall the exact words of a speaker before being asked to recognize the ambiguity of the speaker's words. Results indicate that children in kindergarten continued to fail to make the said/meant distinction, but that children in grade one, if they rehearsed the exact utterance, began to notice the ambiguity. Only by grade three and later, however, did subjects recognize the ambiguity of the utterance. The authors argue that these concepts appear to be part of the general orientation to language and to literate societies, acquired as much from the oral practices of literate parents as from the actual activities of reading and writing.

RYDER, RANDALL JAMES, & SLATER, WAYNE H. The relationship between word frequency and word knowledge. *Journal of Educational Research*, May-June 1988, *81*, 312-317.

Studies the relation between two measures of word frequency, family and single word, and elementary-age children's word knowledge. Subjects included 103 fourth graders, 67 sixth graders, and 67 eighth graders assigned to high, average, or low reading ability groups according to scores on the *SRA Reading Achievement Series*. Subjects were administered a 71-item multiple-choice vocabulary test, with each item consisting of a definition and five response alternatives. The words each reflected a distinct family word type obtained by a random sampling from a corpus of 1,000 family word types. A word family was defined as including all the inflected, derived, and compound forms of a word. Family frequency was found to be a better predictor of pupil word knowledge than form frequency and accounted for 90% of the variance in pupils' knowledge of vocabulary. Individual form frequency accounted for 73% of the variance.

BROWN, GORDON D.A., & WATSON, FRANCES L. First in, first out: Word learning age and spoken word frequency as predictors of word familiarity and word naming latency. *Memory & Cognition*, May 1987, *15*, 208-216.

Includes two experiments to determine if subjective measures of word frequency are more suitable than are standard word frequency counts as indices of actual frequency of word encounter. In Experiment 1, using multiple regression procedures, it was found that the major predictor of familiarity ratings is word learning age. Objective measures of spoken and written word frequency made independent contributions to the variance. Participants in Experiment 2 were 28 staff and students of a British university. The extent to which rated familiarity independently predicts word naming latency and the effects of word learning age were assessed. Subjects named words presented on a screen in four experimental blocks. Rated word-learning age was a better predictor of word naming latency than spoken word frequency, written word frequency, rated familiarity, or other variables.

GARDNER, MICHAEL K.; ROTHKOPF , E.Z.; LAPAN, RICHARD, & LAFFERTY, TOBY. The word frequency effect in lexical decision: Finding a frequency-based component. *Memory & Cognition*, January 1987, *15*, 24-28.

Searches for evidence of a frequency-based component in the word frequency effect. Included as subjects were 10 engineers, 10 nurses, and 10 law students. Subjects were asked to make lexical decisions about 720 stimulus items, half words and half nonwords, from six different categories: engineering, medical, low-frequency nontechnical, medium-frequency nontechnical, and two groups of high-frequency nontechnical. Nurses were faster in responding to medical words than to engineering words, while the reverse was found for engineers. The engineering and medical words were equally long and infrequent as determined by standard word counts.

MCCANN, ROBERT S.; BESNER, DEREK; & DAVELAAR, EILEEN. Word recognition and identification: Do word-frequency effects reflect lexical access? *Journal of Experimental Psychology: Human Perception and Performance*, November 1988, *14*, 693-706.

Cites two experiments examining pseudohomophone performance in lexical decision and in the context of a phonological lexical decision task. Both experiments used undergraduates at a Canadian university as subjects (n = 120, 40). Stimuli in Experiment 1 included a set of 80 pseudohomophones, 80 matched control pronounceable nonwords that were not homophonous with any English word, and two sets of 40 words. Of the words, 20 were nonhomophonic and common to both sets; the remaining 20 were homophones in one set and nonhomophones in the other set. All words were monosyllabic and four or five letters in length. Stimuli were presented in lower case letters on a CRT with subjects pressing a button to indicate whether a letter string was a word or a nonword. Pseudohomophone performance was impaired relative to control words and was insensitive to base word frequency. In Experiment 2, pseudohomophone performance was examined in the context of a phonological lexical decision task; i.e., did the letter string sound like an English word? In this task, pseudohomophone performance was sensitive to base word? In this task, pseudohomophone performance was sensitive to base word frequency. It is argued that the results are consistent with the claim that with respect to phonological lexicons, lexical access procedures are not frequency sensitive.

COLTHEART, VERONIKA; LAXON, VERONICA J.; & KEATING, CORRIENE. Effects of word imageability and age of acquisition on children's reading. *British Journal of Psychology*, February 1988, *79*, 1-12.

Studies the effects of age of acquisition and imageability of words on children and adults' reading in two studies. In Experiment 1, 47 children (mean age = 9 years, 10 months) were presented with two reading tasks. In the first, 80 words to be read aloud differed in age of acquisition (whether words are acquired early or late), but were matched for imageability, length, and frequency. A highly significant effect of age of acquisition on reading accuracy was obtained. In a second task, the children were asked to read aloud 80 words differing in imageability but matched for age of acquisition, length, and frequency. Although imageability affected accuracy for both average and poorer readers, the difference in high and low imageability words was significant only for the poorer readers in the sample. Thus, it appeared that age of acquisition of words is a major determinant of reading accuracy and that the imageability effect is attributable to this variable, except for poor readers, who showed a genuine effect of imageability upon reading accuracy. In Experiment 2 adult naming latencies were obtained for the same tasks. Twenty undergraduate psychology majors showed significantly lower latencies for words acquired early than for words acquired later. Word imageability did not affect adult naming latencies.

NOICE, HELGA, & HOCK, HOWARD S. A word superiority effect with nonorthographic acronyms: Testing for unitized visual codes. *Perceptions & Psychophysics*, November 1987, *42*, 485-490.

Utilizes 36 psychology students as subjects in a study to determine whether a word superiority effect (WSE) obtained for three-consonant acronyms over nonword control strings. The 10 acronyms and 20 nonword controls were presented in uppercase for one group of subjects and in alternating case format for a second group. A WSE was found for acronyms but only when letter detection was tested in the third position of the three-letter strings. Case alternation reduced detection accuracy for acronyms without introducting the left-right scanning effects for the nonword data. It was concluded that the WSE effects found for acronyms was mediated by the postlexical activation of associatively connected single-letter codes.

WAGNER, RICHARD K. Causal relations between the development of phonological processing abilities and the acquisition of reading skills: A meta-analysis. *Merrill-Palmer Quarterly*, July 1988, *34*, 261-279.

Conducts a meta-analysis of longitudinal correlational studies and training studies of causal relations between the development of phonological processing abilities and the acquisition of word-level reading skills. Identified were nine longitudinal correlation studies and seven training studies; their combined Ns exceeded 1200 children. Concluded that there is a casual role for one or more abilities which underlie performance on common phonological processing tasks in the acquisition of word analysis and word recognition skills. Estimates of the magnitudes of the causal relations were substantial when based on either longitudinal studies (median = .38) or on training studies (median = .70). Results of a path analysis supported relatively independent causal roles in the acquisition of word analysis skills for the phonological processing abilities of analysis, synthesis, coding in the context of lexical access, and coding in working memory. Results of a similar nature were obtained for a path analysis of the acquisition of word recognition skills with the exception that the causal relation for synthesis was not independent of that for analysis.

MACLEAN, MORAG; BRYANT, PETER; & BRADLEY, LYNETTE. Rhymes, nursery rhymes, and reading in early childhood. *Merrill-Palmer Quarterly*, July 1987, *33*, 255-281.

Attempts to determine whether there is a relation (and specifically, a causal one) between children's knowledge of nursery rhymnes and their phonological awareness. Data were collected from 66 children whose average age was 3-3. In five at-homes session over 15 months, two standardized tests were administered: the *British Picture Vocabulary Scale* and the WPPSI, as well as varying tasks requiring demonstrations of phonological awareness, including the child's knowledge of nursery rhymes, recognition of rhyming words, and detection of alliteration. In addition, children were administered an alliteration production task, a rhyming word production task, a forced-choice rhyme task, a reading words task, and a letter recognition task. A strong highly specific relation was found between knowledge of nursery rhymes and the development of phonological skills; the relation remained significant when differences in IQ and social background were controlled. Measures of nursery rhymes and of the detection and production of rhyme and alliteration were related to early reading, but not to early arithmetic skills.

EHRI, LINNEA C., & WILCE, LEE S. Cipher versus cue reading: An experiment in decoding acquisition. *Journal of Educational Psychology*, March 1987, *79*, 3-13.

Compares the effects of two methods of training on the acquisition of decoding skills. A sample of novice kindergartners were screened, matched into pairs, and assigned to one of two training conditions. Half of the subjects, the cipher group, were taught to decode non-

sense words to criterion. The other half, the phonetic-cue group, practiced isolated letter-sound relationships. After training, subjects were posttested for speed and consistency in learning to read a set of words, for the quality of their reading errors, and for their memory in spelling the words. On the word-learning posttest, subjects were given a maximum of seven trials to learn to read 15 similarly spelled words. Significant main effects were found for reader group and trials. Cipher readers learned to read most of the words, whereas cue readers learned to read only a few. Furthermore, cipher readers showed consistent and progressive gains on successive trials but cue readers exhibited inconsistent performance between the two groups. An analysis of the spelling posttest showed that cipher readers outperformed cue readers. They spelled more words correctly, recorded more correct letters, more vowels, and more consonant clusters. Overall results suggest that beginning readers who learned to decipher print performed quite differently from beginners who had moved into word reading but could not decode.

LAXON, VERONICA J.; COLTHEART, VERONIKA; & KEATING, CORRIENE. Children find friendly words friendly too: Words with many orthographic neighbours are easier to read and spell. *British Journal of Educational Psychology*, February 1988, *58*, 103-119.

Presents words and non-words to children in oral reading (naming) and lexical decision tasks to investigate the effect of the extent of a word's neighborhood (words differing from a target word by one letter) on recognition and spelling. The investigators term words and non-words with few word neighbors as unfriendly. Forty-nine children (ages eight to ten) were grouped according to reading ability and were tested on lexical decision, naming, and spelling of words and non-words which differed in orthographic neighborhood size. Friendly words with many neighbors caused significantly fewer errors on all the tasks. Item analysis demonstrated that these effects were robust when corrected for frequency, regularity, word length, and age of acquisition. Good readers showed less reliance on word neighborhood size and more evidence of accurate use of grapheme-phoneme correspondence rules. The results indicate that children find common orthographic sequences easier to read and spell before they have learned to use grapheme-phoneme correspondences consistently.

RAYNER, KEITH, & DUFFY, SUSAN A. Eye movements and lexical ambiguity. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 521-529.

Describes four experiments examining the effect of lexically ambiguous words on fixation time in reading. For all experiments, college students were subjects. In general, subjects were presented with short sentences that were identical except for a given target word which was either lexically ambiguous or was a control word matched to the ambiguous word in relevant ways. The duration of the first fixation on the target word was determined along with the gaze duration (the sum of all fixations on a word prior to an eye movement away from the word). Fixation times on the word fixated prior to and after the target word were also examined. When there was a neutral preceding context, subjects fixated longer on ambiguous words with two highly likely meanings than on ambiguous words with a highly dominant meaning or a control word matched for frequency. For these latter two types, there was no difference in fixation times on target words. When the disambiguating information was consistent with the nondominant interpretation of the ambiguous word, subjects used more time to complete reading the sentence when a non-equibiased word was present.

KELLAS, GEORGE; FERRARO, F. RICHARD; & SIMPSON, GREG B. Lexical ambiguity and the timecourse of attentional allocation in word recognition. *Journal of Experimental Psychology: Human Perception and Performance*, November 1988, *14*, 601-609.

Gives results of two experiments investigating the allocation of attention during the recognition of ambiguous and unambiguous words. Participants included 48 and 33 undergraduate students, respectively, in the two experiments. In the first experiments, students were asked to make lexical decisions about words with either a single meaning or multiple meanings or about pseudowords. Additionally, they were asked to indicate the presence of a tone as a secondary task. Equal groups of subjects were randomly assigned to each of the three conditions: primary task alone, secondary task alone, and combined tasks. In the combined condition, probes occurred 90, 180, or 270 ms following the onset of the lexical-decision target. Lexical decisions and probe responses were fastest for ambiguous words, followed by unambiguous words and pseudowords, respectively. For Experiment 2, one group performed the lexical-decision task alone, while another group performed the lexical-decision task during the retention interval of a short-term memory task. Results supported those of Experiment 1 and revealed that word recognition is an attention-demanding process and that the demands are inversely related to the number of meanings of the stimulus.

MULLIN, PAUL A., & EGETH, HOWARD E. Capacity limitations in visual word processing. *Journal of Experimental Psychology: Human Perception and Performance*, February 1989, *15*, 111-123.

Examines the ability of subjects to process words in a spatially parallel manner using several redundant-target detection tasks. Undergraduate students served as subjects in the four experiments presented and numbered 12, 12, 24, and 24, respectively. In Experiment 1, subjects were presented with blocks of target and nontarget words on a computer screen and were asked to respond upon detection of a member of a particular semantic category. Mean reaction times for single target and redundant target conditions did not differ. Results of all four experiments were felt to be consistent with a model that assumes a capacity limitation in the ability to semantically categorize words.

CARAMAZZA, ALFONSO; LAUDANNA, ALESSANDRO; & ROMANI, CHRISTINA. Lexical access and inflectional morphology. *Cognition*, April 1988, *28*, 297-332.

Reports three lexical decision experiments investigating the hypothesis that lexical representations are stored in morphologically decomposed form. Subjects in Experiment 1 were 24 students, ages 18 to 30, who were all native speakers of Italian; in Experiment 2, 21 university student volunteers served as subjects; and in Experiment 3, subjects were 24 native speakers of Italian, ages 18 to 28. The primary purpose of Experiment 1 was to determine if the presence of morphological structure in a nonword affects RT in a lexical decision task. Lexical decision times for nonwords composed of a stem plus affix were compared to times for nonwords and for words. Experiments 2 and 3 presented words and nonwords to subjects also. Results of all three experiments indicated that lexical decision performance for nonwords is affected by morphological structure. It was found that : (1) morphologically nondecomposable nonwords were easiest to process; (2) nonwords with partial morphological structure were more difficult to process than morphologically nondecomposable nonwords; and (3) morphologically legal nonwords were processed with the greatest difficulty.

SIMPSON, GREG B.; PETERSON, ROBERT R.; CASTEEL, MARK A.; & BURGESS, CURT. Lexical and sentence context effects fin word recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. January 1989, *15*, 88-97.

Proposes in three experiments to examine lexical and sentence-level contributions to sentence-context effects in word recognition. Subjects in all three experiments were undergraduates and numbered 48, 48, and 24, respectively. In Experiment 1, normal and scrambled versions of the same sentences were presented on a CRT without the terminal word,

which served as the target. The stimulus word appeared in the sentence as the lexical prime, and its primary associate served as the target. For half of the sentences, no more than three words intervened between the two (near condition); for the other half, five or more words intervened (far condition). Words appeared on screen one at a time at the rate of one word each 300 ms until the entire sentence was on the screen except for the target word which appeared after the rest of the sentence was removed. Subjects were to name the target word as rapidly as possible. Normal sentences showed facilitation for related targets and inhibition for unrelated targets. Experiment 2 included the 96 sentences used in the first experiment plus a new set of unrelated stimuli in which the unrelated target was of the same syntactic class as the related target it replaced. Procedures were essentially the same as in the previous experiment. Only facilitation for related targets was found. For the final experiment, a set of 96 anomalous sentences was created from the sentences used in the first two experiments. Anomalous sentences were semantically incoherent. Normal sentences again showed contextual facilitation, but neither scrambled nor anomalous sentences showed such effects. Findings were interpreted as indicating that there are sentence-context effects which do not arise entirely from intralexical spreading activation and indicate that context facilitates the identification of a lexical candidate.

HALL, DOROTHY P., & CUNNINGHAM, PATRICIA M. Context as a polysyllable decoding strategy. *Reading Improvement*, Winter 1988, *25*, 261-264.

Includes two studies investigating the identification of polysyllabic words with and without context. In the first study, 199 fourth and fifth graders from one elementary school were asked to pronounce 15 polysyllabic words first in isolation and then in a context. An average of 2.41 additional words were pronounced in context over isolation. In the second study, 20 pupils who could not pronounce four or more words for which they knew the meaning were randomly assigned to one of two groups: (1) an experimental group taught to use context and letter-sound relationships simultaneously to identify polysyllabic words, and (2) a placebo group given instruction in listening comprehension. Groups met daily over a three week period. Experimentals did not perform significantly better than the placebo group on a 15-word posttest.

TOMMOLA, JORMA. Facilitation and inhibition of word recognition in skilled reading: Effects of different neutral contexts. *Journal of Research in Reading*, September 1987, *10*, 113-121.

Examines the effects of three neutral contexts on the pattern of word recognition times. A sample of 40 adult, skilled readers of Finnish were presented with the three standard context conditions (congruous, neutral, and incongruous) in a word naming task. The neutral condition included three different types of intermediate context: (1) a non-predictive invariant sentence; (2) a sentence formed of groups of the letter "x" separated by spaces; and (3) a sentence that is syntactic but lacks semantic meaning. The latencies in recognizing the target words served as the dependent variable. The first neutral condition produced no facilitation effect but did produce significant inhibition effects for more frequent and less frequent target words. On the contrary, the second and third neutral conditions produced a facilitation-dominant pattern of naming times. Caution is advised in interpreting studies of context effects since results can be influenced by the type of neutral context employed.

MASSON, MICHAEL E.J. The interaction of sentence context and perceptual analysis in word identification. *Memory and Cognition*, November 1988, *16*, 489-496.

Conducts two experiments in order to test the claim that sentence context effects may be attributed to differential accrual of contextual, rather than perceptual evidence. Subjects were 60 and 74 university students who were to search for a predesignated target word in

rapidly presented normal or scrambled sentence contexts. Contextually enhanced word identification was found only when a target word's relevance to the sentence context was correlated with its presence. When this constraint was removed by the utilization of contextually relevant foils, accuracy in detecting words in normal and scrambled order did not differ reliably. When conditions presented a negative correlation between target relevance and presence, word identification was more accurate in scrambled sentences than in normal sentences. It is contended that results demonstrate that the influence of sentence context on detection accuracy is dependent upon the validity of the contextual evidence.

BARNES, JUDY A.; GINTHER, DEAN W.; & COCHRAN, SAMUEL W. Schema and purpose in reading comprehension and learning vocabulary from context. *Reading Research and Instruction*, Winter 1989, *28*, 16-28.

Assesses how good and poor comprehenders use knowledge or schemata and purpose in learning new vocabulary from context. Subjects were eighth grade social studies students identified as good or poor readers on the basis of performance on one cloze reading test. Forty-six good readers and 37 poor readers were randomly assigned to the two study groups, taught and not taught, such that both reading proficiency levels were represented in each group. The taught group received instruction in eight schemata needed to identify unfamiliar words in a text about China. The not taught group received information about China that had no relevance to the passage and vocabulary encountered in this study. Each group was further subdivided into a purpose and no purpose condition. Students in the purpose condition, in both groups, were instructed to read to determine meanings of eight underlined words (nonsense words) embedded in the text. Students in the no purpose condition were directed only to read the passage. Ability to learn vocabulary from context was assessed by asking readers to define the nonsense words following their silent reading. Their definitions were rated as to correctness on a scale of 0-2. The goodness-of definition ratings for the eight nonsense words were analyzed using a three-way, fixed effects unweighted means ANOVA. The effects of comprehension ability and purpose were found to be significant, but the effect of schemata was not significant. The three way interaction (Comprehender × Schema × Purpose) was significant. Using the Scheffe method of multiple comparisons to identify areas of significance, three significant pairs were discovered. Good comprehenders, taught schemata and given specified purpose, did significantly better than poor comprehenders, not taught schemata and given the specified purpose. Good comprehenders with specified purpose and not taught schemata did significantly better than poor comprehenders with no specified purpose and schemata taught. Also, good comprehenders with specified purpose and not taught schemata performed significantly better than poor comprehenders with no taught schemata and no specified purpose.

KONOPAK, BONNIE C. Eighth graders' vocabulary learning from inconsiderate and considerate text. *Reading Research and Instruction*, Summer 1988, *27*, 1-14.

Seeks to determine if content text can be rewritten such that children's comprehension of unfamiliar topic words would be enhanced. Subjects were 52 eighth graders enrolled in two history classes in a university laboratory school and stratified by reading ability according to reading percentile scores on the SAT; they were then grouped as high ability (n = 27) and average ability (n = 25). Two passages, each about 1,000 words in length, were extracted from a history text, and 15 content words identified in each. From these, 10 target words in each passage were chosen as being embedded in inconsiderate text. Each text was written in a form so that the target words were placed in text revised according to four considerate definitional features: proximity, clarity of connection, explicitness, and completeness. The study, conducted on three separate days, involved a pretest of the words, the reading of the text, and a posttest. Both knowledge of word meaning and self-reports as to their knowledge of words

were collected on the pre- and posttest measures. Text version and passages were counterbalanced within each ability group. Subjects performed better on the revised passages on the definition assessment, but not on the self-report measures.

FISH, MARIAN C., & FELDMANN, SHIRLEY C. A comparison of reading comprehension using print and microcomputer presentation. *Journal of Computer-Based Instruction*, Spring 1987, *14*, 57-61.

Investigates differences in the comprehension of informational and directional material presented on a computer screen or as conventional printed text. Subjects were 36 doctoral students (Study 1) and 23 masters students (Study 2). In Study 1, doctoral students read four informational passages and also directional material giving instructions for various business transactions. Similar materials were included in Study 2. Subjects were randomly assigned to text conditions with reading competence measures serving as co-variates in MANCOVA analyses. No differences were noted in comprehension for following directions. However, near-significant differences were found favoring print for informational material. Characteristics such as prior experience and interest in microcomputers, age, and self-efficacy ratings were not significant factors in performance.

MOMMERS, M.J.C. An investigation into the relation between word recognition skills, reading comprehension and spelling skills in the first two years of primary school. *Journal of Research in Reading*, September 1987, *10*, 122-143.

Reports results of a longitudinal investigation of the development of various subskills in word recognition, reading comprehension, and spelling in two samples of first grade children in the Netherlands over a 14-month period. A second purpose was to predict reading and spelling scores from a comprehensive battery of tests administered at the beginning of formal reading instruction. The researcher sought to determine if the distinction between a general learning readiness and specific reading prerequisites were relevant to the reproduction of reading and spelling achievement, as well as the extent to which decoding skills, reading comprehension and spelling can be distinguished empirically as separate factors after instructional intervals. The two cluster samples, consisting of 12 schools each, used one of two eclectic programs recommending initial instruction with sight words, but rapidly analyzing those words into letter/sounds. The first of these programs taught more sight words, had a slower rate of introduction of letter-sound relations, and tended more toward an integrated method. Batteries of appropriately leveled measures (such as readiness-type tasks, letter cluster identification, reading comprehension, and spelling) were administered before formal reading instruction had started, after three to four months of instruction, after an eight-month period, and again during the first month of second grade. With respect to the reading prerequisites, a general factor and an auditory factor were found, with the general factor the stronger. After three to four months of instruction, decoding speed and spelling were distinguishable factors. The influence of spelling on decoding skills tended to support the view that accuracy in the analysis and blending of words is prerequisite to learning to decode quickly. After eight months of instruction, decoding, reading comprehension, and spelling were clearly distinguishable factors. Although decoding skills influence reading comprehension, the path coefficients did not support the contention that all differences in reading comprehension are attributable to differences in decoding skills. The researcher argues the distinctive character of the three factors (decoding, comprehension, and spelling) is revealed much more clearly than in cross-sectional research in which causal effects decrease or disappear in favor of "memory effects."

TREIMAN, REBECCA, & ZUKOWSKI, ANDREA. Units in reading and spelling. *Journal of Memory and Language*, August 1988, *27*, 466-477.

Seeks information about orthographic units used in reading and spelling by examining pronunciations of nonwords. Units compared were (1) initial consonants plus vowels, (2) vowels plus final consonants, and (3) vowels alone. Two experiments were reported, each utilizing 40 university students as subjects. In the reading condition of the first experiment, subjects were asked to pronounce nonwords such as *frieth, chiend, and chieth*. Subjects were asked in the spelling condition to spell similar type nonsense words. Two types of instructions were given: (1) to pronounce or spell as best they could, and (2) to use analogies in spelling or pronouncing. For Experiment 2, stimuli for reading and spelling conditions were identical to those of the first experiment, but were presented in a different random order for each condition. The task was to rate the pronunciations of the previous subjects on a four-point scale from "not good" to "very good." Results indicated that units larger than single graphemes and single phonemes were used in pronouncing and spelling nonwords. The dominant larger unit used was the vowel and following consonants within the same syllable. Implications are discussed for models of word pronunciation and spelling.

EHRI, LINNEA C.; WILCE, LEE S.; & TAYLOR, BRENDA B. Children's categorization of short vowels in words and the influence of spellings. *Merrill-Palmer Quarterly*, July 1987, *33*, 393-421.

Examines the ability of beginning readers to categorize short front vowel sounds in familiar spoken words and attempts to determine whether learning spellings of these vowels improves the accuracy of their classifications. Three experiments were conducted with kindergarten-, first- and second-graders. In Experiment 1, 20 first and 30 second graders who varied in beginning reading ability were compared on their ability to classify pictures whose names contained short-a, short-e, and short-i vowels. An ANOVA was computed to examine the course of development cross sectionally, with word reading ability (five levels) and vowel types (three variants) as independent variables, and number of correctly sorted words as the dependent variable. A planned comparison testing for a linear trend across the reading groups was significant ($p < .01$). Accuracy in matching ranged from 57% to 90% across the ability groups, supporting the hypothesis that classification of vowel sounds in words increases as subjects acquire large repertoires of recognized words. In Experiment 2, 20 second graders who had mastered the three vowel sounds were given practice (counterbalanced across subjects) naming one set of 12 pictures and reading the other set of 12. Names of the pictures were monosyllabic words containing one of the three short front vowels. The target stimuli for the sorting task were the two sets of pictures in the oral and written treatments. Children were asked to extract and pronounce the vowels from base words before they sorted the target pictures. ANOVA revealed that children exposed to the spellings classified vowels significantly more accurately than those not exposed to spellings ($p < .01$). The post hoc comparisons indicated that performances with short-a and short-i words were equivalent, and each was significantly superior to short-e performance ($p < .05$). In Experiment 3, three second graders and 11 kindergarteners were first taught how to take vowels out of words and say them alone. They were then asked to extract vowels from a list of target words and pronounce them in isolation. Inspection of deviant pronunciations indicated that with vowels in velar nasal contexts (e.g., when short vowels were followed by consonants, many subjects pronounced the vowel as a higher long vowel. It was concluded that orthography influences vowel sound categorization when pronunciations are variant or ambiguous.

SAMUELS, S. JAY. Automaticity and repeated reading. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 215-230.

Offers a comprehensive discussion of automaticity. The author argues that the concept of automaticity should be broadened to include comprehension as well as decoding strat-

egies. Automaticity is defined and the relation between decoding and comprehension is examined. The technique of repeated readings is explained and recommended as an instructional tool to increase automaticity. Research on the effectiveness of repeated readings is presented. Alternative ways of measuring automaticity are discussed.

McLoone, Barbara B.; Scruggs, Thomas E.; Mastropieri, Margo A.; & Zucker, Stanley F. Memory strategy instruction and training with learning disabled adolescents. *Learning Disabilities Research*, Fall 1986, *2*, 45-53.

Attempts to determine the effects of two types of memory strategies (mnemonic versus directed rehearsal) on vocabulary acquisition by LD pupils. Subjects were 30 seventh-grade and 30 eighth-grade pupils from three junior high schools, all classified as LD, who were randomly assigned to either mnemonic or directed rehearsal training condition. Materials included 16 low-frequency English words and 16 Italian vocabulary words. Pupils were also given transfer tasks in which type of memory strategy training was varied between groups so that memory strategy training corresponded to the type of memory strategy instruction received. Children instructed in the training task with the mnemonic strategy outperformed the other group. In the transfer task, mnemonic condition trainees outperformed the others when using the strategies independently.

Singer, Harry. Learning to read and skilled reading: Multiple systems interacting within and between the reader and the text. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 194-206

Argues for the substrata factor theory of reading which explains that reading consists of multiple systems that interact within the reader and between the reader and the text. Singer posits that reading is a multidimensional process consisting of three major systems: perceptual, linguistic, and cognitive. These systems are undergirded by physical and physiological substrata and directed by the readers' purposes, values, attitudes, and perspectives. He contends that any theory of reading that is based on only one system must be inadequate, specifically examining that there is a critical age for learning to read, and that phonological processing may be bypassed in learning to read. Singer concludes that: 1) there is no critical age for learning to read; 2) that phonological processing may not be necessary for teaching beginning reading, but it facilitates reading acquisition; and 3) that although teachers may draw upon linguistic processes in teaching reading, to date there is no valid evidence that linguistic awareness is necessary for learning to read.

IV-10 Factors in interpretation

Sadoski, Mark; Goetz, Ernest T.; & Kangiser, Suzanne. Imagination in story response: Relationships between imagery, affect, and structural importance. *Reading Research Quarterly*, Summer 1988, *23*, 320-336.

Explores the convergence and divergence of college students' spontaneous mental imagery, emotional response, and perception of plot importance in three short stories with similar plot structures. The 39 female undergraduates rated each of the paragraphs of the stories on a five-point scale for imagery, affect, or relative importance to the plot. Each subject rated all three stories on only one scale type. Four weeks later, students were asked to reread the stories and two paragraphs identified as having been rated high by all readers. Subjects were to describe in their own words what images and emotions were perceived in the two paragraphs and why the paragraph was important to the story. Readers perceived similar degrees of plot importance and reported experiencing similar degrees of imagery and affect at predict-

able points. Analyses of reports indicated agreement about what was imagined, what feelings were evoked, and why the paragraph was important. Students' language in describing emotions was similar across subjects. The most divergence was found in the imagery data. Moderate to high correlation coefficients between ratings for imagery, affect, and importance were found across the three stories.

LEHR, SUSAN. The child's developing sense of theme as a response to literature. *Reading Research Quarterly*, Summer 1988, *23*, 337-357.

Investigates children's sense of theme in narratives across three age levels and the role of literature in its development. A literature inventory was used to classify kindergarten, second-, and fourth-grade children in one suburban school as to high or low exposure to literature. The 10 highest-scoring and 10 lowest-scoring children at each targeted grade level were selected. The children were read three realistic fiction books and three folktale books, all age appropriate. Two of the three books in each genre shared a similar theme. After listening to the books in a small group situation, they were instructed to draw a picture about the two stories that told about the same idea. In individual follow-up sessions, each child was asked to identify the two books that had the same theme, and then engage in an interview to aid story retelling, comparison of the stories to former book experiences, and personal evaluations. A thematic scale was used to rate the level of abstraction of the student's thematic statements. Results showed that kindergarten children were able to identify thematically matched books 80% of the time for realistic fiction and 35% of the time for folktales. Most kindergarten children were also able to summarize stories and demonstrate awareness of the internal motivation or reactions of characters. Ability to generate thematic statements correlated highly with exposure to literature. Low-exposure children frequently gave concrete or vague responses. Second- and fourth-grade pupils showed greater ability to analyze and make generalizations about the stories.

GOLDEN, JOANNE M. An exploration of reader-text interaction in a small group discussion. In David Bloom (Ed.) *Literacy and Schooling*. Norwood, NJ: Ablex Publishing Corporation, 1987, 169-192.

Describes a theoretical framework for viewing reader-text interaction developed from phenomenological and semiotic perspectives. The framework is illustrated through an analysis of reader-text interaction in a small group discussion of nine eighth graders and their teacher in an alternative school on the East Coast. All students were reading above grade level as judged by scores on the GMRT and were taking part in a larger study in which they participated in a range of literary experiences including think-aloud journals, interviews, and whole class discussions. The students were divided into two groups for the first phase. Each group read a short adventure story, and one group met with the teacher to discuss the story. The teacher and students were advised that the purpose was to discuss the story in order to make sense out of it. The discussion was videotaped. Two literary constructs were identified for analysis: 1) expectations about events (plot), and 2) patterns of character. In the first phase of data analysis, the investigator read the text as critic to identify text cues which might evoke reader responses about events and characters. The second phase of the analysis focused on how actual readers identified text cues during a particular reading event. Statements in the discussion were first coded to determine explicit references to particular literary elements: characters, events, evaluation, author's techniques, and personal experiences. The majority of teacher's and students' statements referred to characters and events. There was convergence of perceptions on the construction of a text by both the investigator and the participants. That convergence is documented through text and conversational examples.

NEWELL, GEORGE E.; SUSZYNSKI, KAREN; & WEINGART, RUTH. The effects of writing in a reader-based and text-based mode on students' understanding of two short stories. *Journal of Reading Behavior*, March 1989, *21*, 37-57.

Focuses on how assignments in a reader- versus a text-based mode affect written responses to stories. In each of three classes of 10th graders (n = 84), students were assigned two writing tasks about two short stories. One task consisted of personal writing with students asked to elaborate their interpretation of the text using the story as well as their own personal experiences. The other task was formal writing with students required to interpret the story using only references from the text. Essays were scored on an eight-point scale as well as for word and T-unit counts, kinds of literacy response statements, and an analysis of the intended audience and purpose of the writing. Results suggested that the nature of the assignment affected students' approaches to the text as well as what they took from the text. When given text-based or formal assignments, students tended to review more elements of the story and interpret text objectively; when given personal task assignments, students tended to review fewer story elements and to interpret subjectively in the light of background experiences and knowledge.

IV-11 Oral reading

MCNAUGHTON, STUART. A history of errors in the analysis of oral reading behavior. *Educational Psychology*, 1988, *8*(1/2), 21-30.

Examines the research and theoretical literature in discussing the possible roles that errors and error corrections might serve in learning to read. In particular, two positions are contrasted: errors as productive and errors as problematic in instruction. The author posits that the two views are compatible. It is argued that errors can have a generative function and an inhibiting function, depending upon the instructional conditions and the literacy goals of the classroom.

NICHOLSON, TOM; LILLAS, CHRISTINE; & RZOSKA, M. ANNE. Have we been misled by miscues? *Reading Teacher*, October 1988, *42*, 6-10.

Replicates a 1965 research report studying whether children read words better in story context or in isolated lists. Included were 16 six-year olds and 16 eight-year olds in New Zealand. In each age group, half the pupils scored one year or more above average in reading ability and half scored one year or more below average. Each child read short passages and the same words in list form. Story and list forms were given in counterbalanced order. At the six-year old age level, both good and poor readers read better in context, with poor readers evidencing a 52% gain from context and good readers, a 43% gain. Among eight-year olds, poor readers showed a 53% gain from context, but good readers showed a slight (7%) loss.

O'CONNELL, DANIEL C.; KOWAL, SABINE; BARTELS, UTE; MUNDT, HEINRICH; & VAN DE WATER, DONNA A. Allocation of time in reading aloud: Being fluent is not the same as being rhetorical. *Bulletin of the Psychonomic Society*, May 1989, *27*, 223-226.

Analyzes the oral reading of skilled adult readers and compares their rates and pauses with the oral readings of politicians and actors. Four segments of political speeches presented on television by two German politicians (Helmut Kohl and Willy Brandt) and by Ronald Reagan were selected. Two professional actors, one German and one American, and 12 male and 12 female university students, half German and half American, were asked to read aloud

the segments in their native tongues as they thought appropriate to the content, genre, and purpose of the political communication. Recordings of all readings were analyzed for articulation rate, percentage of pause time/total time, pause duration, and phrase length. Additionally, pause time at periods, commas, and unpunctuated positions was tabulated The politicians and actors articulated more slowly than did the subjects and, except for Brandt, used a greater percentage of their time in pausing. Pause duration and phrase length did not differ significantly among groups. Punctuation was predictive of both pause allocation and pause duration. Commas were predictive of pause allocation differentially in German and English.

BROMLEY, KAREN (D'ANGELO), & MAHLIOS, MARC. Good and poor readers' cue utilization and views of the reading process. *Educational and Psychological Research*, Fall 1985, *5*, 257-274.

Investigates the relation between good and poor readers' oral reading behaviors and their views of the reading process. A sample of 57 fifth-graders (30 good readers and 27 poor readers) were chosen based on scores on the ITBS and teacher judgment. Measures of comprehension and oral reading were obtained at each child's instructional and frustration levels using the *Informal Reading Assessment: Preprimer to Twelfth Grade*. Miscues were classified using procedures adapted from the *Reading Miscue Inventory*. The *Reading Attitudes and Awareness Inventory* was used to measure attitudes toward reading, views of the reading task, and views of self as a reader. An analysis of the results found that poor readers made more errors than good readers but the percentage of corrected substitutions made by poor readers was higher at both instructional and frustration levels. Good readers, at their instructional level, made significantly higher percentages of substitutions that were acceptable in two of three cue systems; while poor readers, at their frustration level, made significantly more substitutions that were acceptable in one of three cue systems. Overall, however, few differences were found between good and poor readers in the number or combinations of cue systems used. Significant differences were found between views of the reading task with good readers oriented toward meaning and poor readers focused on decoding.

CAMPBELL, ROBIN. Oral reading errors of two young beginning readers. *Journal of Research in Reading*, September 1987, *10*, 144-155.

Examines the oral reading errors produced by two six-year-old beginning readers throughout a school year in an infant classroom in a large urban district in England. The children's errors of substitution were analyzed for graphophonic, syntactic, and semantic similarity and examined to determine whether the observed response was a previously read word. Both boys read to their teacher 150 times during the school year, with an average error rate of approximately 5%. The reading errors most frequently produced were substitutions. The two boys frequently used a previously read word as a substitution although there was less reliance upon this source toward the end of the year. The graphophonic cue system was used throughout the year, with first letter similarity particularly in evidence. However, finer discriminations over time were noted. The contextual constraints of syntax and semantics were in evidence throughout the year, and the use of these cues had increased by the end of the year.

KNOTT, TONY, & MOORE, DENNIS W. The effects of an introductory provision of context on the oral reading behavior of an above average reader. *Educational Psychology, 1988*, *8*(1/2), 123-126.

Notes the effect of prior provision of context on the oral reading proficiency of a seven-year-old Maori boy, described as an above average reader. Oral reading data were col-

lected in four phases: (1) baseline; (2) treatment, in which a brief context was provided; (3) return to baseline conditions; and (4) return to the treatment condition. The boy read aloud a 100-word passage judged by his teacher to be about a year in advance of his reading level. Data were collected on errors and self-corrections. The treatment condition resulted in decreased errors and increased self-corrections.

BREZNITZ, ZVIA. Increasing first graders' reading accuracy and comprehension by accelerating their reading rates. *Journal of Educational Psychology*, November 1987, *79*, 236-242.

Manipulates beginning readers' oral reading rates to determine the effects on reading accuracy and comprehension. The subjects of the first three studies were 161 Israeli first graders, and those of the last experiment were 61 American first graders reading English. In Experiment 1, all subjects were required to read short passages from parallel forms of the *Comprehension Test for Grades 1 and 2* and to respond to a multiple-choice question for each passage. Subjects (both experimental and control) first read a form of the test at their own normal reading speed and then read another form of the test from a computer screen. The speed of presentation on the computer for the experimental group was based on the fastest rate at which the subject had read a correctly-answered item in the self-paced condition. For the control group, there was no manipulation of the rate of presentation on the screen, and subjects read at their normal rate. In Experiment 2, similar procedures were used except that rate of presentation of text was slowed on the screen to the rate at which the subject had read a correctly answered item in the self-paced condition. Results (from Experiments 1 and 2) indicated no effect for test form or for sex, but did find effects for speed of presentation of text: When presented with text at their maximal normal reading rates, subjects averaged fewer reading errors and higher comprehension scores than in the self-paced condition. By contrast, when the text was presented at the slowest reading rates, subjects' decoding accuracy improved, but their comprehension decreased significantly. In Experiment 3, deliberate errors were introduced into each form of the test. Increased reading rate again reduced the overall errors and increased comprehension. In addition, the deliberate mistakes were more frequently corrected to normal words than in the self-paced condition. Experiment 4 supported the results of the previous experiments with subjects from a middle-class school in the United States, i.e., subjects reading English made significantly fewer oral reading and comprehension errors in the fast-paced condition.

DOWHOWER, SARAH LYNN. Effects of repeated reading on second-grade transitional readers' fluency and comprehension. *Reading Research Quarterly*, Fall 1987, *22*, 389-406.

Investigates the effect of two repeated reading procedures on 17 second grade transitional readers' oral reading performance with practiced and unpracticed passages. Subjects were selected on the basis of average or better decoding ability but below-average rate, and were assigned to one of two types of repeated reading practice, either using a read-along procedure or independent practice. A time series experimental design was employed for both training conditions. All pupils read practice passages to criterion speed, either assisted or unassisted, and then read a transfer passage. An Initial Test and Final Test were administered prior to and after treatment to assess overall progress. Results showed that transitional readers' rate, accuracy, comprehension, and prosodic reading (reading in meaningful phrases) were significantly improved by repeated reading practice regardless of the training procedure employed. Gains in repeated reading of practiced passages transferred to unpracticed, similar passages; however, practice on a single passage was not as effective as practice on a series of passages. Prosodic reading was most facilitated by the read-along procedure.

HOCHHAUS, LARRY; WILLIAMS, ERIC; & POLK, KEVIN. Mixed case and masking interact in word recognition. *Bulletin of the Psychonomic Society*, January 1989, *27*, 15-17.

Studies whether mixed letter case and visual masking interact in a word naming task. Participants were 26 undergraduate psychology students who were presented with three blocks of word lists. Each block consisted of four lists, one for each of four treatments: capitals intact, capital degraded, mixed case intact, and mixed case degraded. Subjects were to read each list aloud; incorrect pronunciations, omissions, and hesitations were tabulated as well as reading time. Both letter case and masking had a significant effect on pronunciation time and on errors. The two interacted in an overadditive fashion on both dependent variables.

O'BRIEN, DAVID G. The relation between oral reading miscue patterns and comprehension: A test of the relative explanatory power of psycholinguistic and interactive views of reading. *Journal of Psycholinguistic Research*, September 1988, *17*, 379-401.

Examines the relation between multiple oral reading miscue measures and postreading comprehension performance. Thirty seventh-grade average readers served as subjects. Materials consisted of two unfamiliar and two familiar passages, each about 250 words in length. Disrupted versions of each passage were developed by encoding semantically unacceptable miscues, identified in pilot work with 40 seventh graders who read the same passages, into the text. Fifteen multiple-choice questions followed each passage and assessed textually explicit, textually implicit, and scriptally implicit comprehension. Each pupil read two passages orally, one familiar and one unfamiliar, one intact and one disrupted. Oral reading miscues were coded, and it was noted also whether or not the embedded inconsistencies were corrected. Oral retellings were collected also. Comprehension scores, grammatical strength scores, recall performance, and multiple-choice performance scores were derived. Pearson coefficients between oral reading and comprehension measures showed a negative relation between oral reading and recall of familiar passages and a positive relation between oral reading and inferential comprehension after reading unfamiliar passages. Attempts at correcting incongruous errors as well as self-reports suggested that subjects' oral reading was not related to performance on comprehension product measures.

CONTE, RICHARD, & HUMPHREYS, RITA. Repeated readings using audiotaped material enhances oral reading in children with reading difficulties. *Journal of Communication Disorders*, February 1989, *22*, 65-79.

Investigates whether repeated readings using audiotaped material (RRT) is an effective method of intervention with a sample of disabled readers and assesses the degree to which the effects of treatment generalize to new material. Twenty-six children, aged 9-13, with average verbal ability (*WISC-R*) and below average reading ability (*Ekwall Reading Inventory, Woodcock Reading Mastery Test*) were identified in two schools and assigned to the experimental or control conditions. Each condition included 13 readers. Some aspects of the reading program (instruction in phonics, vocabulary development, spelling, and creative writing) were the same for both groups. That aspect of the program concerned with passage reading was different for both groups; the RRT group did repeated readings using books that were provided for the study, while the control group read selections from basal readers. Subjects in the RRT group received an average of 20 minutes of RRT, three times per week. The study was conducted over a 10-week period, and information regarding the amount of time spent on various aspects of the reading program was collected in order to determine whether there were between group differences in the composition of the reading programs. The dependent measures were the *Ekwall Reading Inventory*, the *Woodcock Reading Mastery Test*, and

the *Boder Test of Reading and Spelling Patterns*. Comparison of the average total instructional time in language arts/day revealed no significant between group differences. Analyses of test performance revealed that students in the RRT group showed a significant effect of treatment on oral reading, while control group readers showed significantly larger gains in word attack skills. There were no between-group differences in silent reading, cloze reading performance, or isolated word recognition. The pattern of findings suggested that repeated readings of audiotaped material enhanced oral reading ability of students with reading difficulties, but the effects of treatment did not generalize to a wide range of reading measures.

PURUSHOTHAMA, G. Sequencing and orientation difficulties in reading Kannada script. *Perceptual and Motor Skills*, February 1988, *66*, 10.

Checks reversals in the oral reading of Kannada script, a Dravidian language which has a phonetically regular script. Each of 10 good readers and 10 poor readers, identified by teacher rankings, read aloud 118 words and 136 syllables. Children were third graders in India. Good readers reversed 5% of the materials read; poor readers, 91%. Misreadings due to sequencing and orientation difficulties accounted for .3% and 1.3%, respectively, of the total, while in English they accounted for 25% of the total misreadings.

ZHANG, JIAN. Reading miscues and 9 adult Chinese learners of English. *Journal of Reading*, October 1988, *32*, 34-41.

Analyzes the reading miscues of nine adult Chinese learners of English. Subjects had at least two years of studying English prior to recent arrival in the U.S.A. Two selections were read, one orally and one silently, followed by retelling and responding to open-ended questions. Oral miscues were classified as phonological, syntactic, and semantic. Some 90% of miscues had high phonemic similarity, 70% were syntactically acceptable, and 47% were semantically acceptable.

VIPOND, DOUGLAS; HUNT, RUSSELL A.; & WHEELER, LYNWOOD C. Social reading and literary engagement. *Reading Research and Instruction*, Spring 1987, *26*, 151-161.

Queries whether the technique of social reading can facilitate literary engagement. Social reading was defined as a situation in which an individual reads aloud to a listener with the intent of conveying what he/she perceives to be the central intent or point of the text. Subjects were 99 undergraduates, 62 of whom read a 1600-word short story in a social condition and 37 of whom read the same story aloud to themselves with the purpose of preparing for a comprehension test (nonsocial condition). In the social condition, half of the students were readers and half were listeners. Immediately after reading, readers were individually interviewed and asked to respond to statements designed to assess literary engagement. Audiotapes of the oral reading were evaluated also using a miscue analysis type procedure. Nonsocial readers were found to have a higher engagement score than social readers. Social readers made fewer total miscues and had a higher proportion of meaning-preserving miscues than the nonsocial readers.

WILLICH, YVE; PRIOR, MARGOT; CUMMING, GEOFF; & SPANOS, TOM. Are disabled readers delayed or different? An approach using an objective miscue analysis. *British Journal of Educational Psychology*, November 1988, *58*, 315-329.

Compares the oral reading behaviors of 13 fourth-grade reading disabled children with those of 13 normal reading second graders. All subjects were from a suburban primary school in Melbourne, Australia. The groups were equivalent in reading age as determined by scores on the Word Knowledge and Comprehension subtests of the Australian Reading Council for Educational Research (ACER) *Primary Reading Survey*. Scores on the Raven's *Col-*

oured Progressive Matrices were average or above for both groups. Children read a story aloud and miscues were recorded and scored following a modified version of the reading miscue scoring system. Significant differences were noted between groups with disabled readers making significantly less use of syntactic, semantic, and text meaning cues. Disabled readers also had significantly fewer self-correction responses than did normal readers.

COOKNELL, TESSA. An inner-city home-reading project. In Keith Topping, & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 246-254.

Describes briefly the various stages of an inner-city home-reading project in Birmingham, England. Involved were 44 six- and seven-year-olds and their parents. Parents were trained in a three-session workshop in how to listen to their child read, how to correct specific types of mistakes, how to do paired reading, and how to employ a comprehension technique. Reading gains were evaluated at the end of the school year with the *NARA* as well as by reactions of parents and teachers. Children made gains in accuracy on the *NARA* but comprehension was poor. Most parents indicated that they planned to continue working with their children.

IV-12 Rate of reading

ASHMORE, RHEA A. The non-traditional student: Characteristics and reading performance explored. *Forum for Reading*, Fall/Winter 1988, *20*, 30-35.

Determines the effects of a reading and study skills improvement course on reading test scores of 26 nontraditional (age 25 or older) and 26 traditional undergraduate students. Alternate forms of the NDRT were administered at the beginning and end of the 10-week course. On total reading scores, nontraditionals achieved significantly more than traditionals, and females achieved significantly more than males. Traditionals read significantly faster than nontraditionals with no sex differences in rate.

BREZNITZ, ZVIA. Reducing the gap in reading performance between Israeli lower- and middle-class first-grade pupils. *Journal of Psychology*, September 1987, *121*, 491-501.

Examines the effects on rate, comprehension, and decoding skills of prompting first-grade children to read faster. Fifty low-SES children and fifty high-SES children were administered the *Wechsler Vocabulary Test* in Hebrew and two forms of the *Comprehension Test for Grades 1 and 2*, a standardized reading comprehension test written in Hebrew. The reading test was administered on a computer under two conditions. The first form was given in a self-pace mode with children reading orally and responding at their own pace. The second form was administered in a fast-paced condition with speed determined on the basis of their previous performance. A series of ANOVAs found that under the self-paced condition, high-SES children performed significantly better than low-SES children on all three dependent measures. However, on the fast-paced condition, no difference was found between the two groups on number of oral reading errors. Increasing reading rate resulted in significantly improved comprehension scores and fewer oral reading errors for both groups. A significant interaction between SES and comprehension revealed that prompting to increase reading rate was more effective for the low-SES students than it was for the high-SES students.

IV-13 Other factors related to reading

BARR, REBECCA, & DREEBEN, ROBERT. *How Schools Work*. Chicago: University of Chicago Press, 1983.

Conducts a secondary analysis of a previously collected set of data on 15 first-grade classrooms in six elementary schools. Two schools were located in each of three different districts: (1) primarily lower to lower-middle class, black urban neighborhood; (2) an old suburban, middle to upper-middle class, white neighborhood; and (3) a suburban white lower-middle class neighborhood. Explored were the social grouping of pupils for reading instruction, the design of instruction for reading groups, and the learning of individual children. Results and ensuing discussion are extensive. Included among the myriad of findings and conclusions are the following: (1) the average aptitude of instructional groups exerted more influence on the learning pace of children than did their individual aptitudes; (2) class size constrains the number of various instructional arrangements a teacher can make, with small classes affording more choices to the teacher; (3) teachers both form and then use groups instructionally in different ways; (4) teachers change the nature of grouping arrangements and transfer children from group to group depending upon the progress of children; and (5) even within the same school there are vast differences in children's opportunities to learn.

JOHNS, JERRY L. Students' perceptions of reading: Insights from research and pedagogical implications. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 57-77.

Presents a historical orientation to the origins of research in linguistic awareness, and reviews studies investigating pupils' perceptions of reading as well as the impact of children's perceptions of reading on their reading performance. Pedagogical implications and teaching suggestions are offered for the initial stages of reading instruction, the improvement of middle-grade pupils' perception of reading, and the instruction of older students and disabled readers.

NEUMAN, SUSAN B. The displacement effect: Assessing the relation between television viewing and reading performance. *Reading Research Quarterly*, Fall 1988, *23*, 414-440.

Explores the hypothesis that watching television may affect reading achievement by displacing other activities crucial to the development of reading skills. Data were collected from eight statewide reading assessments and from the 1984 National Assessment of Educational Progress (NAEP). Four theories of displacement were investigated: (1) television displaces activities with functional similarity: (2) television displaces activities in physical and psychological proximity; (3) television displaces marginal fringe activities; and (4) television displaces activities that have become less appealing due to the child's changing needs with age. Information was categorized by grade levels into intervals of elementary, intermediate, and high school. Reading achievement differences were negligible for pupils at elementary and intermediate levels watching up to three hours a day. Beyond three hours a day, achievement diminished with viewing. Patterns were not significantly different for socioeconomic, gender, or regional groups. Analysis of outside activities suggests television was not displacing leisure reading. Perceived satisfaction with reading seemed to be more of a factor in choosing reading over television than was leisure time. Small but negative relations were reported between viewing and homework activities. Time spent viewing seemed to be influenced by the increased demands of school and the increased socialization demands as children mature.

HARDMAN, PATRICIA K.; CLAY, JUDITH A.; & LIEBERMAN, ALLAN D. The effects of diet and sublingual provocative testing on eye movements with dyslexic individuals. *Journal of the American Optometric Association*, January 1989, *60*, 10-13.

Seeks to determine if a diet high in sugar and refined carbohydrates affects the eye movement of dyslexics. The 13 subjects, ages 7 to 28, had been diagnosed as dyslexics and,

except for one, all were enrolled in a private school for dyslexics. Eye movement patterns of subjects were collected after subjects had been asked to go on a high sugar, high junk food diet for four days and again five days later after subjects had been on a diet avoiding all sugar. Baseline and eye movement readings also were taken at the time of administering sugar, corn, ethanol, and a control saline. Cane sugar had a significant effect on fixations, regressions, and percent of directional attack (fixations/regressions × 100); corn and ethanol did not significantly affect level of change. More erratic eye movements and a lack of ocular motor coordination were noted on the high sugar diet than on the sugar-avoidance diet.

WHITE, WILLIAM F., & STEVENS, RITA. Teacher morale and student achievement. *Reading Improvement*, Fall 1988, *25*, 222-232.

Explores the relation between teacher morale and student achievement. A sample of 1,592 teachers voluntarily completed the *Survey of Teacher Attitudes* (STA) and the *Observation Climate Description Questionnaire* (QCDQ) and reported standardized reading test scores for their students. Factor analysis of the STA yielded five components: attitude toward classroom evaluation systems, teaching and classroom learning beyond the essential elements, salary and rewards for teaching, and motivation of teachers and students. A similar factor analysis of the QCDQ yielded eight factors: functional behavior of the instructional leader, interference with the responsibility to teach, esprit, interpersonal dynamics, frustration/aggression, aloofness, disengagement, and production emphasis. A stepwise regression looked at the predictive validity of the factors derived from the two scales on student achievement. Teachers' attitudes toward classroom evaluation systems as well as their perceptions of the functional behavior of the principal were the strongest predictors of student achievement in reading.

HARPER, LAWRENCE V., & HUIE, KAREN S. Relations among preschool children's adult and peer contacts and later academic achievement. *Child Development*, August 1987, *58*, 1051-1065.

Examines the effects of sex, age, familiarity, and different kinds of early group experience on the relations between adult and peer interactions among preschoolers. The researchers also examined the relations between four-year-old youngsters' early adult and peer involvement in preschool and their later academic achievement in third grade. Observations were made at a variety of child care centers over a 10-year period. At least 16 observations were available for 112 children ranging in ages from two to four. Observers noted both the peer and adult contacts the observed child initiated and received. At all ages and across settings, children tended to treat social interactions with age-mates as alternatives. Middle-class youngsters showed progressive increases in the proportion of time they spent interacting with peers, relative to time with adults, although only three- and four-year-olds showed increases in the degree to which these involvements were treated as a trade-off. Individual children's day-to-day variance for the combined behaviors was not consistently smaller than for either one alone. The researchers suggest that these findings indicate that relations with caregivers and peers represent two partially incompatible behaviors and that, for individuals, "sociability" is not unidimensional. When the free-play choices of the four-year-olds were correlated with their later academic achievement in third grade, the results indicated that early, adult-oriented activities and certain center activities were positively related to later academic achievement, including scores on vocabulary and reading comprehension subtests.

CAIRNEY, TREVOR H. The purpose of basals: What children think. *Reading Teacher*, January 1988, *41*, 420-428.

Interviews 178 Australian primary school children, aged 5 to 12, in an effort to determine the purposes pupils see for classroom reading and for reading materials. Children represented 15 different schools and included an even distribution by sex and by grade level.

Responses to the reason for reading a basal reader fell into four major categories: task related (48%), utilitarian, learning to read (32%), and teacher pleaser. Within the task related categories, responses fell into six subcategories with 26% of children giving a decoding/word recognition reply, 6% an enjoyment/interest reply, and 2% a comprehension related reply. Responses in the learning to read category increased from 32% in kindergarten to 63% in grade six, while responses in the decoding, vocabulary, and accuracy subcategory decreased from 45% to 5%. For children in grades K-2, the most common reason given for doing worksheets was learning to read and ranged from 65% in kindergarten to 35% in grade two. For children in grades 3-6, 22% of responses about the purpose for doing worksheets fell into the learning to read category and 28% into enabling the teacher to test reading. Almost one-half of responses were unrelated to improvement of reading as a primary goal of worksheets.

BENSOUSSAN, MARSHA. Beyond vocabulary: Pragmatic factors in reading comprehension—culture, convention, coherence and cohesion. *Foreign Language Annals*, October 1986, *19*, 399-407.

Examines and discusses evidence from various sources indicating problem areas in comprehension when reading in a foreign language. Additionally, the author refers to a study in which she examined mistranslations from English among 31 native speakers of Hebrew and 31 native speakers of Arabic. It was noted that many subjects were unable to draw upon a culturally appropriate background schema to comprehend the texts or had preconceptions about word meanings which dominated their interpretations and prevented them from correctly using contextual clues. The importance of considering cultural and rhetorical differences along with linguistic differences between texts in the native and foreign tongues is stressed.

PRESSLEY, MICHAEL, & GHATALA, ELIZABETH S. Delusions about performance on multiple-choice comprehension tests. *Reading Research Quarterly*, Fall 1988, *23*, 454-464.

Explores adults' awareness of performance after responding to three types of multiple-choice items. A sample of 48 Canadian college students was asked to complete three types of multiple-choice tests: a word opposite test, a verbal analogy test, and a reading comprehension test. Following each test, subjects rated their certainty of correctness for each item, given all available testing materials. Subjects also took an SAT verbal test. No statistically significant difference was found among the three types of tests in certainty ratings of correct items. However, certainty ratings of incorrect items for the opposites and analogies tests were significantly lower than those for reading comprehension. Relation between SAT-Verbal scores and awareness were low and not significant. Some significant relations were found between item difficulty and awareness, indicating that subjects were more aware of performance on easier items.

SWEETLAND, JOANN J.; ABEL-CARRICK, DOROTHY; & KINZER, CHARLES K. An analysis of ambiguous oral discourse during reading instruction. In John E. Readence & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 187-193.

Presents and documents prevalent types of ambiguous instructional discourse in the classroom. Three consecutive days of reading lessons of one teacher working with an average ability group of sixth graders (N = 15) were videotaped. Transcripts of the lessons were inspected by the investigators for patterns and types of ambiguous discourse. The resultant classification system was independently verified by a linguist. The four categories of ambiguity found in the sample were labeled as ambiguity due to: 1) inappropriate presuppositions; 2) ambiguous anaphora; 3) inadequately signaled topic shifts, and 4) multiple meanings of signals such as OK. Examples of each category are presented.

IV-14 Factors related to reading disability

McGILL-FRANZEN, ANNE. Failure to learn to read: Formulating a policy problem. *Reading Research Quarterly*, Fall 1987, *22*, 475-490.

Argues that the issue of reading failure is being redefined from one of socioeconomic disadvantage to one of disability and that our responses to the problem are also changing. The classification practices at the school level and topics investigated by researchers reflect these changes. Evidence supports a trend in government policy toward classifying low-achieving children as LD rather than providing compensatory services. Over the past two decades, the number of children enrolled in compensatory education has declined substantially while the number of LD readers has increased dramatically. Federal and state policies have contributed to the multiplicity of labels and the dual configuration of school services for children experiencing reading failure. Various federal and state policies, laws, and regulations influence how a child who cannot read is categorized and which type of instructional intervention is provided. Professional interest has paralleled this trend. The number of research articles and journals devoted to LD has increased while those pertaining to reading and the disadvantaged have declined. The author calls for wider participation on the part of the professional reading community to reformulate policy on underachieving readers.

BRYSON, SUSAN E., & WERKER, JANET F. Toward understanding the problem in severely disabled readers. Part I: Vowel errors. *Applied Psycholinguistics*, March 1989, *10*, 1-12.

Questions whether the vowel responses of impaired readers differ from those of reading level peers. Subjects included three groups of severely reading disabled adolescents and two groups of normal reading controls. Disabled readers were grouped into three subtypes according to relative scores on the Verbal and Performance subscales of the WISC-R. Group 1 (n=15) had higher Performance than Verbal IQs; Group 2 (n=4), a higher Verbal than Performance IQ; and Group 3 (n=13) were roughly equal in Verbal and Performance scores. All had Full Scale IQs of 85 or above and were reading at least two years below grade level. For controls, one group served as age-matched controls (n=14), and the other as reading-matched controls (RMC, n=16); all were reading within one year of grade level. Subjects were presented with 96 nonwords to pronounce, all conforming to rules of English phonology and orthography. Additionally, there was a vowel discrimination task consisting of 60 nonword pairs, and a speech segmentation task including syllable tapping and phoneme tapping. The relative frequency of vowel and consonant errors was examined. All groups made significantly more vowel than consonant errors. Performance of the RMCs on the reading task did not differ from that of the V=P and V > P disabled groups. P > V disabled readers had fewer context dependent responses and significantly more context-free responses than the RMCs and the other disabled groups. The phoneme segmentation task predicted performance on the reading task.

AARON, P.G. Developmental dyslexia: Is it different from other forms of reading disability? *Annals of Dyslexia*, 1987, *37*, 109-125.

Designs a study to determine if developmental dyslexia is qualitatively different from general reading disability in its etiology. Subjects were 19 college students attending a reading skills lab, all of whom were achieving three or more years below expectancy based on scores on the SDRT and the WAIS. Those with a Full-Scale IQ of 95 or greater (n=7) were termed dyslexic; those with a Full-Scale IQ of 85 or below (n=7) were termed the Nonspecific Reading Disability Group (NSRD). Seven additional normal readers served as controls. Groups were then tested for differences in seven types of reading-related measures including decoding, comprehension monitoring, and listening comprehension, among others. The two

groups differed on six of the seven variables assessed. Results suggested that poor decoding skill was the etiology of developmental dyslexia, whereas in the NSRD group, poor reading achievement occurred as part of a generalized cognitive deficit.

WERKER, JANET F.; BRYSON, SUSAN E.; & WASSENBERG, KAREN. Toward understanding the problem in severely disabled readers. Part II: Consonant errors. *Applied Psycholinguistics*, 1989, *10*(1), 13-30.

Examines consonant errors made by severely disabled teenage readers in an attempt to clarify the nature of their underlying disability. Two investigations were reported. In the first study, three groups of disabled readers were compared to both age- and reading-level matched controls on their reading of a list of 96 one syllable nonsense words. Subjects in all groups made many more phonetic feature substitutions than orientation reversal substitutions; no evidence of greater visual confusion among disabled readers was revealed. Further, subjects from the three reading disabled groups made more consonant addition errors than any other error type. A qualitative, post-hoc analysis of the errors indicated that these additions were quite systematic for the reading disabled subjects. The second experiment was designed as a replication and extension of the first with different subjects and new stimulus items. Two groups of disabled readers and two control groups of matched (age- and reading-level) subjects were involved. The test stimuli were 240 nonsense syllables. Results were consistent with those obtained in the first study.

HULME, CHARLES, & SNOWLING, MAGGIE. The classification of children with reading difficulties. *Developmental Medicine and Child Neurology*, June 1988, *30*, 398-402.

Reviews selective evidence relevant to the distinction between reading backwardness and dyslexia or specific reading retardation; also reviews attempts to classify dyslexic children into etiological subgroups. Recent literature is cited which blurs the distinction between reading retardation and reading backwardness. Studies attempting to classify dyslexic children into subgroups are criticized in part because there often is an absence of data from normal control children, thereby making it difficult to determine whether error patterns are atypical. It is argued that systematic studies of normal readers at various levels of reading skill would aid in clarifying interpretations of reading patterns shown by dyslexics. Attention is needed in clarifying the association between particular patterns of reading and spelling performance and particular cognitive deficits.

IDOL, LORNA. Johnny can't read: Does the fault lie with the book, the teacher, or Johnny? *Remedial and Special Education*, January-February 1988, *9*(1), 8-25, 35.

Offers an empirically based model explaining how three different classes of variables appear to influence reading. The classes include text-related, teacher-related, and student-related variables. The model posits an interactive theory of the process of reading, meaning that efficient readers use both top-down (conceptually derived) and bottom-up (phonemically derived) mental processing when engaged in contextual reading. For each of the three variable classes (teacher, text, and student), an empirical base is built, demonstrating the importance of each to the interactive reading process. Discussion of the differential ease with which each of the three classes of variables may be controlled is included. Implications are presented for teaching poor readers.

SNOWLING, MAGGIE; VAN WAGTENDONK, BENTE; & STAFFORD, CAROLYN. Object-naming deficits in developmental dyslexia. *Journal of Research in Reading*, September 1988, *11*, 67-85.

Reports two experiments investigating the object naming deficits of dyslexic readers. For Experiment 1, 20 dyslexic children from two London schools, all reading at least 18 months below their chronological age (mean CA = 10-5) and two comparison groups of normal readers served as subjects. Normal readers included 15 at age 11 and 14 at age 8. Pupils were asked to name 33 objects from pictures and 33 from their spoken definitions, and then completed an unexpected recall test. Six weeks later, all of the dyslexics and 11 of the 11-year-old comparison group were asked to give definitions for each of the 66 object names. Dyslexics made more errors both in picture naming and in naming objects from their spoken definitions than the 11-year-olds and performed only as well as the younger normal readers. In Experiment 2, 11 nine-year-old dyslexics (mean CA = 9-5) and 13 normal readers matched on the basis of age and performance on the *British Ability Scales* test of Word Definitions were administered the *Picture Naming Test* and the *Picture Vocabulary Test*. There were no significant differences between the performance of the two groups on the vocabulary test which tapped vocabulary knowledge by receptive means. However, dyslexics made significantly more errors than normals on the naming test. The majority of errors made by dyslexics on the naming test were semantically related, while on the vocabulary test, the majority of errors were phonologically related. Findings from the two experiments were interpreted as suggesting that the difficulty experienced by dyslexics in retrieving the phonological forms of words was not an access problem, but rather one which was attributable to their possessing faulty or impoverished representations of the words.

TYLER, STEPHEN, & ELLIOTT, COLIN D. Cognitive profiles of groups of poor readers and dyslexic children on the British Ability Scales. *British Journal of Psychology*, November 1988, *79*, 493-508.

Attempts to identify different forms of learning disability defined in terms of scores on the *British Ability Scales* (BAS). Two samples of children with reading difficulties, 145 poor readers, ranging in age from 8-0 to 13-11 years, and 121 dyslexic children, in the age range 8-0 to 16-11, were tested on the *BAS*. The poor readers were further classified into children with specific reading retardation (SSR) and those with general reading deficits (GRD) on the basis of the relation between their observed and predicted reading scores. A cluster analysis of the profiles of scores on the *BAS* confirmed the validity of the classification scheme. A separate cluster analysis of the *BAS* scores of the dyslexic subjects resulted in identification of three distinct groups: 30 with mixed visuo-spatial and linguistic processing problems, 52 with sequential processing problems, and 39 with problems in the holistic retrieval of information. These findings supported the view that children with specific reading retardation, and dyslexic children in particular, were not homogeneous in their cognitive profiles. In a final test, each group, SSR, GRD, and dyslexic readers, was analyzed for fit to a principal components model of learning disability. The fit to the model for the groups was poor. It was suggested that a model which implicates left hemisphere etiology for all LD children is inadequate. Benefit was suggested to result from the rigorous definition of specific subtypes and the *BAS* was recommended as a useful identification tool.

MURPHY, LORNA A.; POLLATSEK, ALEXANDER; & WELL, ARNOLD D. Developmental dyslexia and word retrieval deficits. *Brain and Language*, September 1988, *35*, 1-23.

Compares developmental dyslexics and normal readers on oral language, picture categorization, and reading tasks. The 14 developmental dyslexics were selected on the basis of slow naming rates on the Rapid Naming Tasks. The 14 controls were matched on age (mean CA = 10-9 and 10-10) and IQ (mean IQ, approximately 107) with dyslexics. All were given the Reading Subtest of the WRAT, the GORT, the *Boston Naming Test*, a retelling task for expressive language, a receptive language task, a picture categorization task, a simple choice

reaction time task, a timed word reading task for regular and irregular words, and a lexical decision task. Results suggested that the word retrieval deficits of dyslexics were not limited to performance on artificial naming tasks. Dyslexics were slower to produce words and produced fewer words and propositional units on the retelling task, displayed deficits in receptive oral language, but were only slightly and nonsignificantly slower to categorize pictures than controls. Dyslexics were slower in naming irregularly spelled words compared to regularly spelled words on the lexical decision task.

PRATT, ANNE C., & BRADY, SUSAN. Relation of phonological awareness to reading disability in children and adults. *Journal of Educational Psychology*, September 1988, *80*, 319-323.

Evaluates the ongoing role of phonological awareness in reading ability for third graders (Experiment 1) and for adults (Experiment 2). In Experiment 1, 15 good readers and 15 poor readers were selected on the basis of nonoverlapping scores on the Word Attack and Word Analysis subtests of the *Woodcock Reading Mastery Tests*. The two groups did not differ in age, verbal IQ, nonverbal IQ, or gender. Additional measures administered included the *Auditory Analysis Test*, *Lindamood Auditory Conceptualization Test*, a nonspeech control task, and a word length judgment task for real words and for nonsense words. In Experiment 2, subjects were 26 Adult Basic Education (ABE) and Literacy Volunteers (LV) students. Thirteen poor readers were selected from beginning and intermediate ABE classes and from LV; 13 controls were selected from advanced ABE classes. Procedures and measures for Experiment 2 were essentially the same as for Experiment 1. Differences in phonological awareness accounted for much of the variance between good readers and poor readers at both age levels. No correspondence was noted between reading ability and performance on the nonspeech task.

TEMPLE, CHRISTINE M. Developmental dyslexia and dysgraphia persistence in middle age. *Journal of Communication Disorders*, June 1988, *21*, 189-207.

Presents a case study of one middle-aged male whose developmental dyslexia and dysgraphia had persisted for the 30 years since he left school. Case history and diagnostic data relative to reading, spelling, and rhyming task performance were presented and discussed. Measures included the Schonell single word reading test, the Schonell single word spelling test, and experimenter-constructed word reading and rhyming tasks. The subject was considered a phonological dyslexic who showed no recovery in comparison to younger developmental phonological dyslexics. It was suggested that apparent difficulties with higher-order sound segmentation, analysis, or organization may have contributed to his lifelong literacy problems.

JOHNSTON, RHONA S.; RUGG, MICHAEL D.; & SCOTT, TANA. Pseudohomophone effects in 8 and 11 year old good and poor readers. *Journal of Research in Reading*, September 1988, *11*, 110-132.

Compares the performance of good and poor readers on a lexical decision task employing nonwords and pseudohomophones matched for orthographic similarity to words. Subjects were ages 8 and 11. Four types of subjects were used: (1) poor readers of average intelligence; (2) poor readers of below average intelligence; (3) CA controls; and (4) RA controls. Subjects were presented a lexical decision task that consisted of pseudohomophones, nonwords, and fillers. Nonwords were meaningless but conformed to the rules of English spelling. Pseudohomophones were a subset of nonwords that were phonologically similar to real words. The two classes of nonwords were closely matched for visual similarity. An analysis of the mean accuracy rates revealed significant main effects for age, group, and stimulus type. Eleven-year-olds performed significantly better; CA controls scored signifi-

cantly higher than the other three groups; and nonwords produced significantly more accurate responses than pseudohomophones. No significant differences in accuracy were found between the two poor reader groups, and the RA controls. The overall results showed no discernible difference between good and poor readers in their utilization of phonological information when making lexical decisions.

JOHNSTON, RHONA S.; RUGG, MICHAEL D.; & SCOTT, TANA. The influence of phonology on good and poor readers when reading for meaning. *Journal of Memory and Language*, February 1987, *26*, 57-68.

Compares the extent to which good and poor readers, ages 8 and 11, are influenced by phonological information in reading for meaning. Four types of subjects were used: (1) poor readers of average intelligence; (2) poor readers of below average intelligence; (3) CA controls; and (4) RA controls. Each group carried out two reading for meaning tasks, one task containing pseudohomophones and nonwords and the other containing homophones and nonhomophones. In Experiment 1, subjects distinguished between meaningless and meaningful sentences that contained either pseudohomophones or nonwords, and later were asked to pronounce the targets. An analysis of the percentage correct scores for sentences found a significant main effect for age, subject group and sentence type. Eleven-year-olds made more accurate responses; CA controls scored higher than the other three groups; and more accurate responses occurred on sentences which sounded meaningless. A significant interaction between age and group was also discovered. An analysis of the pronunciation task uncovered significant effects for age, group, and stimulus. Again, eleven-year-olds were more accurate at pronouncing words; CA controls scored higher than the other groups; and pseudohomophones were pronounced significantly more accurately than the nonwords. A significant interaction between group and stimulus type modified the interpretation. In Experiment 2, the same subjects repeated basically the same procedures but stimulus materials used homophones and nonhomophones instead of pseudohomophones and nonwords. The results of the reading for meaning task (i.e., classifying sentences as meaningful or meaningless) revealed significant effects for age, subject group, and sentence type. Eleven-year-olds performed better; CA controls performed more accurately; and less accurate responses occurred on sentences which sounded meaningful. A number of significant first- and second-order interactions were also found. Only one significant effect, that of subject group, was found on the pronunciation task. CA controls exceeded the other three groups. When subjects were asked to define the critical words, the proportion of words correctly defined produced the same results found on the previous tasks.

STANOVICH, KEITH E. Explaining the differences between the dyslexic and the garden-variety poor reader: The phonological-core variable-difference model. *Journal of Learning Disabilities*, December 1988, *21*, 590-604.

Raises questions concerning research in and models of reading disability and develops the phonological-core variable-difference model. The model offers a way to conceptualize differences between dyslexics and poor readers. Data are reported on a multivariate study of reading related cognitive subskills of children in grades three and five. A series of measures were employed including the Reading Survey Test of the MAT, PPVT, two measures of phonological sensitivity, letter- and picture-naming tasks, pseudoword naming, and word naming with and without a related prior context. Intercorrelatation coefficients among all variables indicated that the strongest predictors of reading comprehension were the PPVT score and word-naming times. When children at each grade were divided into skilled and less skilled readers so that skilled third graders and less skilled fifth graders formed a comprehension level match, performance patterns of the two groups differed significantly on only one of

13 variables, letter-naming time. A second investigation formed a three-group comprehension level match with children in grades 3, 5, and 7. Subjects in grades 5 and 7 included children from the first study two years later. Many of the measures from the first study were repeated and additional ones given. At all three grade levels, the best predictors of MAT performance included word naming and the PPVT score. Across the three comprehension level matched groups, only two variables differed significantly, letter naming and articulation time. However, neither was related to reading ability score. Using these data, the author develops his model.

SIMPSON, LORRAINE, & BYRNE, BRIAN. Phonological awareness in reading-disabled adults: A follow-up and extension. *Australian Journal of Psychology*, April 1987, *39*, 1-10.

Compares performance of ability-matched poor and normal adult readers on a continuous word recognition task. Poor and normal readers were matched for years of schooling, CA, and scores on the PPVT and the *Standard Progressive Matrices*. Reading skill was assessed on the *St. Lucia Graded Word Reading Test* and a nonword test. The 12 subjects in each group were given a continuous word recognition task, a continuous item recognition task of nonwords, and a syllable classification task. Total error rates and false negative errors were approximately identical across groups. Both groups gave evidence of the use of the semantic code in memory in continuous word recognition, but neither group gave evidence of phonetic encoding. However, on the nonword recognition task, both groups showed use of phonetic encoding. Both groups demonstrated phonemic awareness on the syllable classification task. Because subjects were of lower mental ability, it was felt that the use of phonetic encoding may be ability linked.

HOLLIGAN, CHRISTOPHER, & JOHNSTON, RHONA S. The use of phonological information by good and poor readers in memory and reading tasks. *Memory and Cognition*. November 1988, *16*, 522-532.

Cites results of four experiments investigating the extent to which poor readers show evidence of impaired phonological processing in both memory and reading tasks. Experiments 1, 2, and 4 were carried out with the same subjects, 20 poor readers, mean CA of 8.5, and 20 younger, reading-age control children, mean CA 7.16. Mean RA for both groups on the Word Recognition Test of the *British Ability Scales* was about 7.0. For Experiment 3, subjects were 20 normal readers, mean CA of 8.32. In Experiment 1, children were shown alternating strings of phonologically similar and dissimilar letters and asked for a written recall. Letters were shown in (1) an easy condition in which string length was appropriate for each subject's memory span, and (2) a hard condition in which each child received string lengths three items longer than memory span allowed. Both groups were found to show a normal effect when the memory task was at an appropriate level of difficulty, but no effect when a large number of items had to be recalled. In Experiment 2, four types of word pairs were used as stimuli: orthographically similar and dissimilar rhyming and nonrhyming words. Poor readers were less accurate at rhyme judgment than their RA controls; both groups performed poorly when there was a mismatch between rhyme and orthography. Poor readers were better at remembering an item matched to an orthographically similar nonrhyming word than to an orthographically dissimilar rhyming word; they selected more orthographically similar foils than phonologically similar ones. RA and CA controls chose phonologically similar pairs. The purpose of the final experiment was to determine whether or not the two groups could be differentiated in terms of their reading strategies; both groups showed regularity effects in a naming task and pseudohomophone effects in a lexical decision task. Although poor readers could read three-letter nonwords as well as controls, they were

significantly impaired in reading more complex one-syllable nonwords. The authors concluded that poor readers may have a phonological dysfunction in some aspects of reading that is not related to whether or not they demonstrate phonological similarity effects in working memory. They may have impaired segmentation skills underlying difficulties in both reading and nonreading tasks.

KAMHI, ALAN G.; CATTS, HUGH W.; MAUER, DARIA; APEL, KENN; & GENTRY, BETHOLYN F. Phonological and spatial processing abilities in language- and reading-impaired children. *Journal of Speech and Hearing Disorders*, August 1988, *53*, 316-327.

Extends an earlier study comparing the phonological processing abilities of language-impaired (LI) and reading-impaired (RI) children. Subjects included 10 RI, 10 LI, and 10 normal language and reading abilities children, all between the ages of 6-8 and 8-10. A total of eight tasks were administered, four word repetition tasks all involving nonsense words and tasks of syllable segmentation, rapid naming, and two spatial tasks involving paper folding and form completion. Normals performed better than the other two groups on all but the syllable segmentation and repeating words presented in noise tasks. LI and RI children performed comparably on all tasks with the exception of the multisyllabic word repetition task on which RI children did better than LI children. The authors warn that while the similarity in performance between the two impaired groups might invite a conclusion that the two are the same children disguised by different labels, such a conclusion ignores the real language differences existing between the two.

MANN, VIRGINIA A.; COWIN, ELIZABETH; & SCHOENHEIMER, JOYCE. Phonological processing, language comprehension, and reading ability. *Journal of Learning Disabilities*, February 1989, *22*, 76-89.

Gives findings of two studies into the relation between the phonological processing skills of poor beginning readers and their comprehension of spoken phrases and sentences. Subjects in Experiment 1 included 10 good and 9 poor readers in second grade and 12 good and 9 poor readers in fourth grade. Children listened to two comprehension tests, a sentence test and a noun-phrase test. Comprehension was assessed with a four-alternative, forced-choice picture verification procedure. Both measures stressed the use of prosodic cues of pitch, pause, and stress. Poor readers made more errors than good readers on both tests. Fourth grade poor readers performed at the level of the good second grade readers. Experiment 2 involved the same pupils as those in the first experiment as well as a group of 26 college students. Materials included a 40 sentence comprehension test and a reiterant speech discrimination test along with memory tests and perception tests. Poor readers and younger children perceived prosodic cues as well as other children. However, there was evidence that they differed in the use of the cues. Evidence also supported the conclusion that decreased reliance on prosodic cues was associated with limitations on phonological coding in linguistic working memory. Thus differences between good and poor readers were analogous to those between older and younger readers, with the performance of poor readers tending to resemble that of younger children reading at the same level. The authors concluded that good and poor readers tended to differ in the rate at which they develop phonological processing skills.

KENNEDY, ALAN, & MURRAY, WAYNE S. The components of reading time: Eye movement patterns of good and poor readers. In J.K. O'Regan & A. Levy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 509-520.

Examines various dimensions of the eye movement patterns of two groups of IQ matched readers, 16 good readers and 16 poor readers. Subjects were between 10 and 11

years old and from three primary schools in Scotland. Reading performance was assessed by the NFER Reading Test. Eye movements were recorded as children read from a screen pair of sentences containing either pronominal or noun phrase anaphor. Materials were manipulated by varying the location of the antecedents of anaphoric expressions as well as the syntactic complexity. The two groups appeared to modulate the numbers and duration of fixations and the duration of blinks in different ways. It was concluded that results argued for an analysis of Reading Time in terms of the duration of fixation, the number of fixations, and the duration of blinks.

SHARE, DAVID L.; JORM, ANTHONY F.; MATTHEWS, RUSSELL; & MACLEAN, ROD. Lexical decision and naming times of young disabled readers with function and content words. *Australian Journal of Psychology*, April 1988, *40*, 11-18.

Cites results of two experiments examining phonological recoding in specific reading retarded and general reading backward readers using a lexical decision task and a naming task. In Experiment 1, 13 general backward readers and 28 specific retarded readers were identified. The two groups were in grade two and differed significantly in IQ on the *Columbia Mental Maturity Scale* but did not differ on age, sex, or scores on accuracy and comprehension on the NARA. Each child read aloud a list of 70 function and 70 content words. There was a significant tendency for both groups to read fewer function than content words. In Experiment 2, 9 general backward readers and 17 specific retarded readers from Experiment 1 were matched to control normal readers on sex, school, and IQ. Reaction times for a naming task and a lexical decision task were collected. Naming of words was more difficult relative to lexical decisions for disabled readers than for controls. Function words produced more errors for disabled but not normal readers.

ZECKER, STEVEN G., & ZINNER, TANYA E. Semantic code deficit for reading disabled children on an auditory lexical decision task. *Journal of Reading Behavior*, 1987, *19*(2), 177-189.

Compares the semantic processing abilities of good and poor readers. A sample of good and poor readers, ranging in grade level from 3 through 11, was matched on intelligence and age. Subjects made lexical decisions to pairs of orally presented stimuli. Half of the word-word pairs were semantically related (e.g., bread-butter) while the other half were semantically unrelated (e.g., doctor-butter). In addition, other pairs contained nonwords (e.g., word-nonword, nonword-word, and nonword-nonword). An analysis of the mean reaction times to the real word pairs found a significant effect for condition and a significant interaction for group by condition. Semantically related words were identified significantly faster and the relatedness effect was much larger for normal readers than for poor readers. No significant difference in reaction times was found between the two groups. When the reaction times to nonwords were analyzed, a significant main effect for condition, a nonsignificant main effect for group, and a nonsignificant group by condition interaction were found. Response times for the nonword pairs were significantly longer than for the word-word pairs. The overall results suggest that poor readers exhibit impaired semantic processing abilities, and these findings support a verbal-deficit hypothesis of reading disability.

SCHLAPP, URSULA, & UNDERWOOD, GEOFFREY. Reading, spelling and two types of irregularity in word recognition. *Journal of Research in Reading*, September 1988, *11*, 120-132.

Investigates the effects of visual and phonological characteristics of words on good and poor readers and good and poor spellers. A sample of British children between the ages of 9 and 11.5 years served as subjects. The subjects were classified into three groups: good readers and good spellers, good readers but poor spellers, poor readers and poor spellers.

Subjects performed a lexical decision task in which three types of words were compared: (1) standard regular words; (2) words with common orthography but irregular spelling-to-sound relationships; and (3) words with unusual orthography as well as irregular spelling-to-sound relationships. Response times and error data were analyzed. Performance of good readers, but not of poor readers, was impaired on the words which were phonologically irregular. Poor spellers performed worse on words that were both phonologically and orthographically irregular; but good spellers performed nearly as well on the irregular words as they did on the regular ones.

SWANSON, H. LEE. Learning disabled readers' verbal coding difficulties: A problem of storage or retrieval? *Learning Disabilities Research*, Summer 1986, *1*(2), 73-82.

Seeks to determine whether LD readers; impaired verbal coding is related to storage and/or retrieval operations. Subjects included 16 skilled and 16 LD readers matched on age, IQ, and sex. Mean ages of children were approximately 12 years old. Pupils were shown shapes or figures without names or with names that emphasized the semantic aspects of the shape or names that were not associated with the figure representation. Analysis of first-choice responses on a probe-recall task revealed that skilled readers were superior to LD readers on the semantic training conditions. No significant recall differences were found between reading groups on unnamed and named-nonassociated conditions. When the first-choice response was incorrect, an analysis of second-choice responses revealed minimal recall advantage for skilled over LD readers. Findings were interpreted as suggesting that disabled readers' verbal coding operations reflect a reduction in the availability, as opposed to the accessibility of previously stored information.

SPEECE, DEBORAH L. Information processing subtypes of learning-disabled readers. *Learning Disabilities Research*, Summer 1987, *2*(2), 91-102.

Proposes to identify homogeneous clusters of LD readers based on information processing skills and to determine if these clusters would be differentiated by reading performance. The final sample included 59 reading disabled (RD) children and 21 normal achieving readers (NAR), ages nine to 10. A series of experimental tasks was administered, including the following: sustained attention, encoding, short-term memory capacity, memory organization, and speed of recoding. Five subtests of the WRMT were used to assess reading subskills: letter identification, word identification, word analysis, word comprehension, and passage comprehension (cloze passages). Hierarchical cluster analysis was used to classify children based on the experimental information processing measures. A six-cluster solution was selected as having the most homogeneous clusters as well as the most distinctive mean profiles without redundant profiles. The clusters were not significantly different based on reading subskills scores. Results of a factor analysis indicated that the WRMT assessed global reading skill in this group of children and perhaps was not a sensitive measure of separate reading.

FELDT, RONALD C., & WITTE, KENNETH L. Mnemonic benefits of digit-list organization: Test of the developmental lag hypothesis of reading retardation. *Journal of Genetic Psychology*, December 1988, *149*, 459-469.

Tests the hypothesis that poor readers lag behind good readers in their awareness of the mnemonic utility of digit-list organization and in their use of such organization to enhance serial recall. Subjects included 15 good readers each at grades 2, 3, and 5, and 15 poor readers each at grades 2 and 5, so designated on the basis of scores on the Comprehension section of the GMRT. Poor readers were those whose comprehension score was .5 or more below the mean raw score for the appropriate grade; good readers were those whose compre-

hension score was above the mean raw score for the grade. Stimuli consisted of 30 lists of 12 digits, with 10 lists in each of the following types of organization: chunked, sequenced, and random. Children were to read a list of digits aloud, to predict the number of digits they thought they could recall, and then to recall the list. A paired-comparison procedure was employed to assess awareness of the mnemonic utility of list organization before and after exposure to a series of digit-span estimation trials. Fifth grade good readers were superior in their recall to good readers in grades 2 and 3 and also to poor fifth grade readers. Same grade good and poor readers at other grades did not differ. All groups showed superior recall and accuracy of prediction for organized lists. Thus the developmental lag hypothesis was not supported.

KIRBY, JOHN R., & ROBINSON, GREGORY L.W. Simultaneous and successive processing in reading disabled children. *Journal of Learning Disabilities*, April 1987, *20*, 243-252.

Explores the relation among simultaneous and successive information processing, language processing, reading processing, and reading achievement in reading disabled children. A sample of reading disabled children, ranging in age from 7 to 15 years, was administered a wide array of measures intended to assess simultaneous and successive cognitive processes, language skills, reading processes, and reading achievement. Data analysis followed three stages. First, a series of factor analyses were performed on each domain. Second, factor scores were used to examine relations among domains. Third, an exploratory factor analysis of the factor scores was performed. It was found that simultaneous processing is more closely associated with semantic processing, while successive processing is closely tied to graphophonic decoding and syntactic analysis. An analysis of student performance suggested a mismatch in that LD students employ simultaneous processing in the early stage of reading for both word recognition and syntactic analysis when successive processing would be more appropriate.

FELTON, REBECCA H., & WOOD, FRANK B. Cognitive deficits in reading disability and attention deficit disorders. *Journal of Learning Disabilities*, January 1989, *22*, 3-13.

Presents three studies concentrating on separating the effects of attention deficit disorder (ADD) and reading disability (RD) on a spectrum of cognitive deficits. Study 1 investigated verbal memory and naming deficits in 45 RD and 53 controls who were characterized by the presence or absence of ADD. Children ranged in age from 8 to 12 years old. Study 2, using the same 45 RD subjects as Study 1, investigated cognitive deficits associated with subtypes of reading disabilities by evaluating naming and word retrieval skills according to RD subtype as well as to the presence or absence of ADD. In Study 3, 485 first graders were administered a battery of reading, cognitive skills, and ADD measures. In the three studies, the cognitive deficits associated with reading difficulty were consistent across samples, developmental levels, definitions, and subtypes of reading disabilities. Poor readers tended to be impaired on measures of naming and phonological awareness. The effects of attentional deficits were found to be more variable and complex, but were separate from the reading disability effects.

MCGEE, ROB; WILLIAMS, SHEILA; & SILVA, PHIL A. Slow starters and long-term backward readers: A replication and extension. *British Journal of Educational Psychology*, November 1988, *58*, 330-337.

Contrasts and compares, in a longitudinal study, the predictive power of various measures of cognitive ability, language abilities, behavior at home and at school, and family background for children showing long-term backward reading (LTB) and children who were

slow to start reading (SS). The sample of New Zealand children began with 1,037 at age three; subsequent sample numbers were 991 at age five, 954 at age seven, 955 at age nine, 925 at age 11, and 855 at age 13. Reading ability was assessed at ages 7, 9, 11, and 13 using the *Burt Word Reading Test*. At age seven, an 87-word prose reading test was also administered. Poor readers at age seven were determined by a reading score in the lower 15% of the distribution on both the Burt and the prose test and a WISC-R IQ above 70. SS children were defined as those who were poor readers at age seven but had a reading score within one standard deviation (SD) of the mean for their sex by age 13. The LTB group were poor readers at age seven who had a reading score more than one SD below the mean for their sex at age 13. There were 15 boys and 18 girls in the SS group and 21 boys and 21 girls in the LTB group. Measures collected included the WISC-R; ITPA, *Dunedin Articulation Check*; *Rutter Child Scales* A and B; SES and various other indicators of family adversity; and maternal reading ability on the Burt. Only maternal reading ability differentiated significantly between the two groups.

SZESZULSKI, PATRICIA A., & MANIS, FRANKLIN R. A comparison of word recognition processes in dyslexic and normal readers at two reading-age levels. *Journal of Experimental Child Psychology*, December 1987, *44*, 364-376.

Asks whether there are differences in the word identification processes employed by dyslexics as compared to normal readers at the same stage of reading acquisition. Participating in the study were 52 dyslexic children in grades 2-8 and 34 normal readers in grades 1-4. Both dyslexics and reading-age matched controls were divided into younger reading age and older reading age groups based on scores on the *Gilmore Oral Reading Test*. Children were required to read orally lists of words and pseudowords designed to assess various decoding processes. Older reading-age groups performed better than younger reading-age children. All children did better on regular words than on exception words, and better on words of both categories than on pseudowords and analogy words. There was no difference between dyslexics and normal readers at the older reading age. Younger reading-age dyslexics made fewer rule-based pronunciations of pseudowords than did their normal reading-age controls. No evidence was found that indicated that dyslexics utilized qualitatively different processes to identify words.

MACLEAN, MARGARET, & CHAPMAN, L. JOHN. The processing of cohesion in fiction and non-fiction by good and poor readers. *Journal of Research in Reading*, February 1989, *12*, 13-28.

Investigates how good and poor readers at the secondary level use cohesion during silent reading. Subjects were 44 pupils, aged 11-12 years, from a girls school in Birmingham, England. Thirty were identified as good readers and 14 as poor readers by teachers on the basis of academic performance. Materials consisted of test booklets containing extracts from 13 fiction books and 16 nonfiction books. In each test booklet, the GAP procedure was used to select 65 deletions, 60 of which were cohesive items (conjunctions, lexicals, references, and substitutions) and five of which were designated as other or within sentence items. Responses were analyzed following the Reading Development Continuum (RDC) which places responses in four positions. Good readers were able to supply significantly more of the authors' actual words than poor readers. Both groups did better at replacing actual words in fiction than in nonfiction. Both groups showed movement along the RDC, with both moving back and forth along the continuum as they attempted to make meaning. Good readers seemed to work with larger units of text and were more successful than poor readers in maintaining the global unity of the text.

BEVERIDGE, MICHAEL, & EDMUNDSON, SUSAN. Reading strategies of good and poor readers in word and phrase presentation. *Journal of Research in Reading*, February 1989, *12*, 1-12.

Presents two experiments using a microcomputer self-paced reading task to examine the reading strategies of good and poor readers. Subjects for Experiment 1 were from five different fourth year junior classes in England (CA about 10-8) and included 23 poor readers with a RA one to two years below CA and 23 good readers with a RA above their CA. Children read three experimental texts (informational, autobiographical, narrative) presented either a word or a phrase at a time on a microcomputer with rate of presentation under control of the child. Multiple-choice questions followed each short text. Good readers read faster than poor readers, but the difference in reading time between the two was significantly greater in the phrase condition than in the word condition. Poor readers regressed more than good readers in the word condition but the reverse was true in the phrase condition. In Experiment 2, 10 good readers and 10 poor readers from one school were identified from RA scores on the *Hunter-Grundin Literacy Profiles*. Mean CA for the group of 20 was 11-3. Six 300-word texts, two at each of three readability levels (10, 12, and 14 years), were presented a word at a time. Results were similar to those in Experiment 1.

DAVEY, BETH. The nature of response errors for good and poor readers when permitted to reinspect text during question-answering. *American Educational Research Journal*, Fall 1988, *25*, 399-414.

Assesses strategy differences between comparably skilled but younger good readers and older poor readers. Subjects consisted of 60 good readers at grades 5 and 6 and 60 poor readers at grades 9 and 10, all scoring between 5.0 and 7.9 on the Reading Comprehension subtest of the SAT. Participants were given three expository passages of 250-300 words in length to read, each accompanied by four text-explicit and four text-implicit free response items. Looking back at the passages was permitted while answering questions. Three types of error responses were considered: (1) text-based language – incorrect responses used three or more consecutive words appearing in the passage; (2) reader-based knowledge; and (3) no-response. Poor readers made more errors overall related to the use of specific text language compared to good readers. Poor readers tended to use strategies related to text language or would not respond, while good readers tended to be more effective overall and to use more reader-based knowledge in responses.

SWANSON, BEVERLY B. Strategic preferences of good and poor beginning readers. *Reading Horizons*, Summer 1988, *28*, 255-262.

Seeks to discover if a "talk-aloud" procedure can elicit a variety of responses from first graders and if there are differences in the responses between good and poor readers. Based on CAT scores, 12 good and 12 poor readers were identified. Children were trained on a "talk-aloud" procedure and then asked to utilize it while reading a basal reader story into a tape recorder. Responses were classified into 12 strategy usages, with about 20% classified as "no response." Good readers tended to use personal identification and restatement strategies significantly more than poor readers. Poor readers tended to respond literally and use tunnel vision, focusing on a limited amount of the text. Poor readers responded in ways that reflected limited memory and decoding difficulty, whereas good readers seemed to relate the story to their personal experiences more than poor readers.

SODERLUND, JOANN. A comparison of selected reading behaviors of learning disabled and reading disabled students. *Kansas Journal of Reading, Spring 1989, 5*, 50-53.

Compares reading performance of nine LD and nine RD children on three reading measures: *Durrell Analysis of Reading Difficulty*, the *Essential Sight Words Test*, and the *Minimal Contrast Phonics Test*. Only limited data are presented. It is reported that the two groups scored similarly on all measures, with wide variations of ability within each group.

WONG, BERNICE Y.L., & WONG, RODERICK. Study behavior as a function of metacognitive knowledge about critical task variables: An investigation of above average, average, and learning disabled readers. *Learning Disabilities Research*, Summer 1986, *1*, 101-111.

Investigates metacognitive knowledge of vocabulary difficulty and passage organization in relation to the ease of studying a passage among above average, average, and LD readers. Included were 17 above average readers, 14 average readers, and 14 LD readers. The two former groups were in grades five and six; LD pupils were from grades 5, 6, and 7. Children were individually shown four passages, two with vocabulary manipulated (hard/difficult) and two with organization manipulated (organized/disorganized). They were asked to identify which of the two hypothetical pupils would remember more of the passages. Time spent on the passages was varied for the hypothetical readers. Three weeks later, each child was again given the passages to study and recall. Above average readers demonstrated more metacognitive knowledge about both vocabulary difficulty and passage organization than did either of the other groups. Only good readers studied the disorganized passage longer, while only LD readers studied the difficult vocabulary passage longer. The authors note that their findings challenge assumptions that LD readers lack metacognition about reading.

REGEHR, SONYA M. The genetic aspects of developmental dyslexia. *Canadian Journal of Behavioral Science*, July 1987, *19*, 239-253.

Reviews the research literature to determine if there is evidence that there are genetic influences on some subtypes of dyslexia. Three subtypes in particular have been studied for their genetic involvement: (1) a type involving verbal/language deficiencies, (2) a type characterized by visual/spatial deficiencies and (3) a type involving both verbal/language and visual/spatial problems. It is concluded that dyslexia does have a genetic basis with especially strong evidence that verbal/language deficits dyslexia is heritable and has been related to a specific marker on chromosome 15. Evidence supporting the heritability of the other two types is not clear; indeed, the author questions the existence of the third subtype.

ACKERMAN, PEGGY T.; ANHALT, JEAN M.; HOLCOMB, PHILLIP J.; & DYKMAN, ROSCOE A. Presumably innate and acquired automatic processes in children with attention and/or reading disorders. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, July 1986, *27*, 513-529.

Compares innate and acquired automatic information processing in three groups of educationally handicapped boys and 24 normal achieving elementary school boys. Educationally handicapped boys were assigned to one of three following diagnostic groups on the basis of parent interviews, teacher ratings, WISC-R IQs, and scores on the WRAT: (1) 21 Attention Deficit Disorder (ADD) without hyperactivity (H) and without RD; (2) 24 ADD with H but without RD; and (3) 24 with Developmental Reading Disorders in the absence of H. Boys were administered five tasks, some tapping purportedly innate automatic processing and some acquired skills. All groups showed reliable, presumably innate, automatic processing on temporal and frequency sensitivity measures, although the two ADD groups made less precise judgments than did controls. All disabled groups displayed delayed automatization in math computation, but the disabled groups did not differ from controls on other measures of acquired automatization such as speed of writing and naming.

SCARBOROUGH, HOLLIS S. Prediction of reading disability from familial and individual differences. *Journal of Educational Psychology*, March 1989, *81*, 101-108.

Studies predictability of reading disability at grade two from familial incidence of reading problems and by individual differences among children in various language and reading abilities. The sample included 38 children for whom familial incidence of reading problems was reported, and 28 with no family histories of reading problems. When children were preschoolers, parents were administered the WAIS, the reading cluster of the WJPEB, and a questionnaire about past and current reading abilities. At age five, children were given a battery of cognitive, language, and readiness measures, and information was obtained from parents about children's reading and television-viewing habits. At grade two, the following scores were obtained: WISC-R, Reading Cluster scores from the WJPEB, the *Decoding Skills Test*, and a spelling list of 30 words. RD cases were 16 children whose WJPB scores were more than two standard deviations below IQ expectancy levels. Low achieveing children were one year behind in reading (n = 7); normal readers were the 43 remaining children. Familial risk alone accounted for 19% to 36% of the total variance in reading scores. In combination with children's early verbal skills, 79% to 82% of predictions to second grade reading scores could be made. Little support was found for the utility or reliability of a distinction between low achievement and specific underachievement relative to IQ in prediction analyses.

TAYLOR, JOANN. Teaching children who speak a non-standard dialect to read. *Reading Improvement*, Fall 1987, *24*, 160-162.

Cites findings from a recent study in the Los Angeles City School District (from 1977 to 1980) that determined that speaking black dialect did not adversely affect the children's language ability. Teachers and pupils (n unspecified) were taught to speak standard English as well as dialect. An assessment used to test the oral language competence of black dialect-speaking children (conversation abilities, narrative abilities, and style shifting) determined that black dialect-speaking children were competent in all of the areas analyzed.

GROGAN, SARAH C. Nonverbal communication in children with reading problems. *Journal of Learning Disabilities*, June/July 1988, *21*, 364-369.

Compares the nonverbal communication of poor and adequate readers in Great Britain. A sample of 28 poor readers, ranging in age from 7 to 15 years, was identified and matched with a sample of adequate readers on age, gender, nonverbal IQ, and teaching class. At the conclusion of a psychometric battery, all children participated in a structured interview which was video-taped for later analysis. Five dependent variables gleaned from the videotapes were considered: smiling while speaking and listening, gazing while speaking and listening, and number of filled pauses. No significant differences were found between the two reading groups on duration of smiling and gazing. However, poor readers made significantly more filled pauses than adequate readers. Also, more filled pauses were made during conversations about non-school topics than school-related topics. No significant differences were found for age or sex.

TOPPING, KEITH. Parental involvement in reading: Theoretical and empirical background. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 17-31.

Reviews selected research on the etiology of reading failure, including the relative influence of home and school on educational attainment. Home factors that tend to lead to and those that work against school failure are identified and discussed, including the effects of

practice, relevant feedback, reinforcement, and modeling. Suggestions for ensuring parental involvement are offered, and descriptors of techniques used in parental involvement programs are presented in a comparative chart.

HOLDSWORTH, PAULINE. Parental involvement at Mowbray School. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 208-224.

Describes the involvement of parents in teaching children with specific reading difficulties in Mowbray School, a school whose purpose is to accommodate children with a wide range of special education needs in a short-term placement. Five reading workshops were planned in which parents were familiarized with the procedures of their child's reading program as well as specific ways to work with their child's reading. Tests which were administered prior to and after the program indicated that all children made progress in both reading accuracy and comprehension, and that 79% made gains in excess of the normal rate. Of the highest scoring group, all but one child had parents who were regularly involved in their child's program. In the group with less progress, all but one were described as having little help at home, indicating that parental involvement was an important factor in progress. Parents reported that their children were more confident, voluntary readers, and they felt satisfied with their child's progress. Children, too, felt that their reading skills had significantly improved. Of the 35 children reintegrated into their regular schools, only two were perceived by their schools as having reading difficulties which prevented their joining in class activities. Indicators from follow-up testing produced some unevenness in results, with the rate of progress falling for the majority of the group.

TORGESEN, JOSEPH K. Using computers to help learning disabled children practice reading: A research-based perspective. *Learning Disabilities Focus*, Spring 1986, *1*(2), 72-81.

Reviews available research literature on the use of CAI with LD children. The first section deals with information about specific ways in which computers have been used in reading instruction with LD children as well as with the general population of children. A second section details three evaluation studies in which particular software programs were used to increase the decoding skills of LD children. It is concluded that microcomputers can be used to help LD children acquire better reading skills.

TORGESEN, JOSEPH K.; DAHLEM, WILLIAM E.; & GREENSTEIN, JONATHAN. Using verbatim text recordings to enhance reading comprehension in learning disabled adolescents. *Learning Disabilities Focus*, Fall 1987, *3*,(1). 30-38.

Reports three experiments examining the effects of using verbatim text recordings to increase comprehension and learning of information from textbooks by LD subjects. Participants came from grades 9-12 and numbered 16 LD students in each experiment, with some of the same subjects serving in all three. Experiment 1 also included a group of normal tenth grade readers. In the first experiment, subjects read, read and listened, or simply listened to selections from textbooks used in their history, civics, or health classes. Six open-ended, short answer questions followed each passage. Findings suggested that the supplemental auditory materials positively affected the comprehension of LD subjects. In Experiment 2, subjects either read, or read and listened to passages 10 minutes a day, three days a week, and were tested once a week for six weeks. In this extended period, the use of auditory tapes did not improve performance on comprehension tests. Experiment 3 evaluated the effects of supplemental auditory materials as an aid to learning chapter-length material when students were required to complete a worksheet as they read the material. In this situation, listening did produce significant gains in performance on weekly comprehension tests. Marked individual

differences were noted in response to the various interventions that were associated with both reading skills and intelligence levels.

AARON, P.G.; PHILLIPS, SCOTT; & LARSEN, STEEN. Specific reading disability in historically famous persons. *Journal of Learning Disability*, November 1988, *21*, 523-538.

Argues that some famous individuals were learning disabled. Presents biographical, cognitive, neuropsychological, and biological information to support the view that Thomas Alva Edison, Woodrow Wilson, Hans Christian Anderson, and Leonard da Vinci had characteristics associated with developmental reading disability.

IV-15 Sociocultural factors and reading

HEATH, SHIRLEY BRICE. *Ways with Words*. Cambridge, England: Cambridge University Press, 1983.

Documents in an ethnographic study how children from two culturally different small communities in the Piedmont Carolinas learned to use language. The two communities were only a few miles apart, with one being a black community and the other, white. The book is an extensive and detailed account of how language socialization occurs in the preschool years as well as how the teachers bring this knowledge into the classrooms. Different types of uses of reading and writing occurred in the two communities and prepared children in different ways for dealing with text. Both groups of children had concepts of print; neither had much experience in seeing parents read and write extended pieces of prose. One of the general findings was that the factors involved in preparing youngsters for school-oriented success go deeper than such things as amount of parent-child interaction and differences in formal structure of language. In the two communities, it was also noted that occasions for reading and writing extended prose occur less frequently than occasions for oral discourse around written materials.

BURIEL, RAYMOND, & CARDOZA, DESDEMONA. Sociocultural correlates of achievement among three generations of Mexican American high school seniors. *American Educational Research Journal*, Summer 1988, *25*, 177-192.

Examines the academic achievement of three generations of Mexican American high school seniors in relation to students' achievement aspirations, mothers' achievement aspirations for their children, Spanish language background, and socioeconomic variables. Academic achievement was defined as performance in mathematics, reading, and vocabulary on standardized tests. Data were collected as part of the High School and Beyond longitudinal study, a national survey of high school sophomores and seniors conducted in the spring of 1980. Separate stepwise regression analyses were conducted for each dependent variable. For mathematics achievement, students' aspirations was the only significant predictor for first and second generations. Students' aspirations entered into the equation for the third generation but not as strongly as for the first two generations. Home language and mother tongue entered in a negative fashion. For reading achievement, students' aspirations was again the only significant predictor for first and second generations. For third generation students, three language variables (mother tongue, Spanish oral proficiency, and Spanish literacy) contributed significantly along with students' aspirations. For vocabulary achievement, students' and mothers' aspirations were the important predictors for the first generation. For the second generation, students' aspirations was the best predictor, followed by Spanish oral proficiency and literacy. Oral proficiency loads in a negative direction but Spanish literacy is positively related to achievement. For third generation students, students' aspirations and fathers' education are the best predictors. Mother tongue enters in a negative direction.

WAGNER, DANIEL A., & SPRATT, JENNIFER E. Intergenerational literacy: Effects of parental literacy and attitudes on children's reading achievement in Morocco. *Human Development*, November-December 1988, *31*, 359-369.

Collects data on the impact of parental literacy and attitudes on children's reading achievement in a developing country. Data were collected on a sample of 350 six- to seven-year-olds and their parents in one urban and one rural site in Morocco. Information obtained included a sociodemographic and attitudinal survey administered to parents, the average of several reading test scores given to children, and an assessment of children's metacognitive beliefs about reading and learning. Chi-square analysis revealed that children's reading levels were significantly related to parents' educational level and to parental attitudes. Children's metacognitive beliefs about reading and learning were also found to be significant predictors of reading performance.

SCHIEFFELIN, BAMBI B. & COCHRAN-SMITH, MARILYN. Learning to read culturally: Literacy before schooling. In Hillel Goelman, Antoinette A. Oberg, & Frank Smith (Eds.) *Awakening to Literacy*. London: Heinemann Educational Books, 1984, 3-23.

Examines and reports the ways in which children, as well as the adults around them, organize and use their literacy skills to perform their own social functions, and how this changes across social and cultural context, as well as developmentally. To try to account for and to understand the meaning of literacy as a cultural phenomenon that interacts with certain social processes, three different cultural groups are described: a group of educated, school-oriented parents and their preschool-aged children from a Philadelphia suburb; a family in a traditionally nonliterate society in Papua, New Guinea; and a number of Chinese families who left Vietnam and settled in Philadelphia. For these three groups, the researches sketch the values and beliefs concerning literacy, the different roles played in literacy activities, some of the functions of literacy, and finally, some of the relevant contexts that organize, shape, and promote certain types of literacy experiences. The researchers suggest that the concept of literacy has many different meanings and implications. They argue that for an individual to become literate, literacy must be functional, relevant, and meaningful for individuals and the society in which they live. It must be able to meet their own social purposes and goals.

DICKINSON, DAVID K., & SNOW, CATHERINE E. Interrelationships among prereading and oral language skills in kindergartners from two social classes. *Early Childhood Research Quarterly*, March 1987, *2*, 1-25.

Intercorrelates prereading and oral language skills with 33 kindergartners (mean age = 5-2) from two social classes. On the basis of parental occupation, 18 lower SES subjects and 15 higher SES children were identified. Subjects attended two different full day kindergarten/day care programs both of which had an ethnic and economic mix of children. Children were tested individually in three to four sessions of 15 to 20 minutes over several months. Prereading measures included tasks of rhyming, letter writing, spelling, alphabet knowledge, decoding, sound isolation, story comprehension, environmental print. Decontextualized language skills were assessed with a picture completion task and a word definition task (10 nouns from the WISC-R). Test results were clustered into composite scores reflecting print decoding, print production, knowledge of literacy forms, and various aspects of contextualized and decontextualized oral language skill. Prereading skills were found to be highly intercorrelated and to relate to the ability to provide decontextualized definitions for words. Oral language measures of decontextualized skill correlated within task, but not across tasks. ANOVA tests of social class differences revealed significant differences for the prereading measures and for those oral language variables that correlated with the prereading

measures. These differences favored higher SES children. Social class differences were not found on measures of ability to provide communicatively adequate definitions, or for receptive vocabulary.

DOIRON, RAY, & SHAPIRO, JON. Home literacy environment and children's sense of story. *Reading Psychology*, July-September 1988, *9*, 187-202.

Compares the story telling abilities of three- and four-year old children from differing home literacy environments. The *Home Literacy Environment Index*, a project developed questionnaire, was used to select 40 three- and four-year old children who came from homes with either a high bias or low bias toward literacy. Each child was assessed individually using a wordless picture book technique. The children were asked to use the book to tell a story. The stories were recorded, transcribed, and analyzed against a checklist of story elements and a checklist of literary devices. Four-year olds used a significantly greater number of story elements and literary devices than three-year olds. Children from high literacy environments outperformed their peers from low literacy environments at the four-year old level but not at the three-year old level.

HEWISON, JENNY. Parental involvement and reading attainment: Implications of research in Dagenham and Haringey. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 42-53.

Reports the results of research designed to uncover ways in which home background influences reading performance. Seven-year-olds in Dagenham, a housing estate outside London, were studied to determine factors that characterize successful readers in working class areas. Home background influences were gained from parent interviews. Reading and IQ scores were also obtained. Although a large number of factors were found to be correlated with reading success, including parent language and attitudes, as well as a variety of measures of the child's IQ, the factor most strongly associated with success was that of parents regularly hearing the child read at home. This effect held even in homes with "unfavorable language atmosphere." To determine the association between parental behaviors and child reading performance, research was conducted in the London Borough of Haringey. All parents of children in certain top infants' classes were asked to listen to their children read aloud for a short period several times a week from material sent home by the child's teacher. Comparable children in other classes in the two schools taking part in the project acted as controls. The project intervention ran for two years. Standardized reading tests were used to assess the performance of project and control children before, during, and after the intervention period. At the end of the intervention period, children from the experimental classes were reading at a considerably higher level than the controls. More than 17% of the control class children were found to be performing at the very weakest level on the standardized test, as compared with 6% of children from the parent involvement classes. Reading gains made by the project children were still evident by the time they left the junior school.

LANCY, DAVID F.; DRAPER, KELLY D.; & BOYCE, GLENNA. Parental influence on children's acquisition of reading. *Contemporary Issues in Reading*, Spring 1989, *4*, 83-93.

Reviews research on the role of parents in the early development of reading in children. The focus was on studies that reveal the extent and the nature of parent-child interactions in the context of storybook reading. Research findings verified the significant impact of literary experiences in the home on children's subsequent reading acquisition and proficiency. Implications for enhancing parental reading experiences and for applying similar strategies in schools were detailed.

LINDBLAD, ARNOLD H., & JOHNSON, ROGER A. Family mobility: Its influence on reading achievement of sixth-grade students. *Educational and Psychological Research*, Fall 1988, *8*, 321-329.

Studies various demographic characteristics to determine the effects of their interaction with mobility on reading achievement test scores. Cumulative records of 1,686 sixth graders enrolled in an eastern city/county school division were used as the data base. Of the total, 779 pupils had remained within a single attendance tract (non-mobiles); 237 had changed attendance zones but within the same public school division (intra-city mobiles); and 670 had part of their schooling outside the specific school division (extra-city mobiles). Pupils who received a free or reduced-price lunch were classified as disadvantaged (n = 480). There were 1,126 white and 560 black pupils; 808 males and 878 females. Scores on the Reading Subtest of the SRA were collected from school records and used as the dependent variable; ANOVA and *Duncan's New Multiple Range Test* were utilized in analyzing data. Black boys scored significantly lower than black females or whites of either gender. Intra-city mobile advantaged boys, advantaged girls, and disadvantaged boys scored lower than their non-mobile or extra-city mobile or extra-city mobile counterparts.

WHITE, WILLIAM F.; KARLIN, ANDREA; & BURKE, CHARLES. Perception of home environment and school abilities as predictors of reading power and school achievements. *Perceptual and Motor Skills*, June 1986, *62*, 819-822.

Explores the relation between home environment and reading achievement. A sample of 565 sixth-graders was administered the *My Education* scale (ME) and the *Degrees of Reading Power* (DRP). The ME consists of 55 items classified into nine categories. A factor analysis of the responses from the ME scale found that five factors accounted for 47% of the total variance of the scale. One factor, labeled Values Learned from Parents, was the best predictor of reading achievement and correlated .41 with DRP scores. Perceptions of values learned at home were more highly related to achievement than perceptions of achievement motivation, peer influence, perceptions of the quality of instruction, or time on task.

FENN, LAWRENCE M., & IWANICKI, EDWARD F. An investigation of the relationship between student affective characteristics and student achievement within more and less effective school settings. *Journal of Research and Development in Education*, Summer 1986, *19*, 10-18.

Examines whether there were significant differences between the affective characteristics of students in more effective and less effective schools after family background variables were controlled. Two more effective and two less effective schools were identified through the analysis of the *Sequential Tests of Educational Progress* performance of pupils at grades 4, 5, and 6 from seven urban Chapter 1 elementary schools. The more effective and less effective schools were matched with respect to the availability of instructional resources and family background variables. A confirmatory MANCOVA indicated that significant achievement differences (including differences in reading, vocabulary, and writing) existed in all areas between children in the more and less effective schools after controlling for family background variable. These achievement differences could not be attributed to differences in ability as measured by the *School and College Ability Test*.

IV-16 Reading interests

RITCHIE, DAVID; PRICE, VINCENT; & ROBERTS, DONALD F. Television, reading, and reading achievement: A reappraisal. *Communication Research*, June 1987, *14*, 292-315.

Reappraises the relations found among television viewing, out-of-school reading, and reading achievement using data collected from a three-year panel study of children at three grade levels. In the final sample there were 75 children in the youngest cohort who were in the second grade when the study began and in fourth grade in the third year of the study; 95 children who started the study as third graders and ended as fifth graders; and 100 children who began the study as sixth graders. In the spring of each year of the study, children were asked to respond to an extensive questionnaire dealing with various aspects of television viewing and reading habits, school and social activities, and family and home environment. Additionally, children completed a diary of television viewing done for five consecutive days. Reading achievement data were obtained from the CTBS, SAT, or SRA. Zero-order coefficients of correlation between the TV index and reading test scores were consistently significant and negative, ranging between -.36 to -.45 for the total group over the three years. Partial correlation coefficients indicated that higher levels of TV viewing are significantly, but weakly, related to lower subsequent reading test scores. Reading scores, TV viewing time, and reading time were highly intercorrelated at the outset of the study and remained highly stable over the entire three years. What little change there was in reading time or in reading skills did not appear to be related consistently to time spent viewing television. Time spent reading nonschool materials did not predict increases in reading scores to any great extent.

PUMFREY, PETER D. A three-year longitudinal study of children's reading behaviors: What has been learned? *Educational Research*, November 1988, *30*, 163-176.

Reports a three year longitudinal study to compare progress in children's reading attainments, attitudes toward reading, and reading habits in 324 children attending four middle schools in one English local education authority. Two pairs of matched schools (on location, size, population, organization, and teaching methods) were identified and designated as experimental or control schools. The experimental schools (one inner city and one outer city school) served 163 pupils and the controls (one inner city and one outer city school) included 161 pupils. The children were 10 years of age at the initiation of the study. A major concern of the research was to determine if the addition of 4,500 books to the libraries of the two experimental schools impacted pupils' reading achievement, attitudes, or habits. The major independent variables were treatment (experimental vs. control groups), location (inner city vs. outer city), and occasion (initial vs. subsequent). Dependent variables were measures of reading attainments (*Schonell Graded Word Reading Test R1, NFER Reading Test AD*, and *Edinburgh Reading Test, Scale 3*), measures of reading attitudes (*Sharples-Reid Self-Assessment of Reading Interest, Book Flood Reading Attitudes Scale, Askov Reading Inventory*), one self-concept measure (*Coopersmith Self-Esteem Inventory*), and records of the number and variety of books read. Using a specially devised Reading Record Form (RRF), subjects maintained records of all books read during the three year study. Positive changes in reading attainments were found; however, no simple differential gain resulting from the extra supply of books was identified in relation to either reading attainments or attitudes toward reading. No statistically significant changes in attitudes, as measured on the attitude scales, were identified over the three years. The RRF data represented a unique record of the development of children's reading habits. Follow-up case studies of avid and infrequent readers revealed parental differences, the effect of school policies (regarding book displays and accessibility), and the impact of classroom teachers on children's reading habits.

LAU, SING, & CHEUNG, SAU MAN. Reading interests of Chinese adolescents: Effects of personal and social factors. *International Journal of Psychology*, 1988, *23*(6), 695-705.

Explores relation of reading interests of 2,114 Chinese adolescents to personality, values, and the reading interests of family members and peers. Students in the 10 secondary

schools were administered a questionnaire asking for the amount and type of reading done, their interest and preference in the type of book, and amount and type of reading done by family members and peers. They were also given the *Eysenck Personality Inventory* to determine introversion-extroversion and the *Personal Value Scales* to find values on intellectualism and academic achievement. Students were placed into low, moderate, and high groups on these scales and compared as to the amount and types of reading done. Less introverted students tended to prefer adventure and action materials to read; more introverted subjects tended to select more serious material. Subjects whose family members and peers read tended to read more and reflected broader reading interests.

THORPE, DINA. Children choosing and reading. In Peter Smith (Ed.) *Parents and Teachers Together*. Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 68-79.

Observes and analyzes the reading habits of families over one year as part of a Family Reading Group held in Fleetville public library, St. Albans. In addition to book borrowing records, monthly interviews with 14 of the children who came to 10 meetings over the course of the year provided information on the way in which children choose their reading material and the way in which they approach it at home. These data were supplemented by the after-school diaries kept for a two week period by 300 children at four junior schools. In interviews, children indicated that their book choices were influenced by personal recommendations from family/friends and from having seen the book before. By monitoring book borrowing and reported use, the researcher concluded that popular titles were characterized by their presentation (format), humor, and word play. Children were offered unlimited check-out and no prescribed due dates, so that book reading habits could be monitored. Records were kept of books read, partly read, and not read. The researcher argued that the flexibility was important to children's book choices and patterns of reading. Most children (both those interviewed and those who completed diaries) read before bedtime. The research noted that borrowing patterns and interviews indicated that children had learned to handle more complex concepts of character and reality in fiction as the year progressed.

LITCHFIELD, MARGARET. Cross-age tutoring in the primary school. In Peter Smith (Ed.) *Parents and Teachers Together*. Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 80-93.

Describes a project in four urban primary schools to examine the effect of regular book sharing between older children (aged 10-11) and younger (aged six to eight) poor readers. The older children were tested at the beginning and end of the project using the Reading for Meaning section of the Hunter-Grundin Literacy profiles. Younger children were pre- and posttested with the *Nelson Primary Reading Test*. Tutees were interviewed at the beginning and end of the project, and tutors were also interviewed at the project's end. Six pairs of pupils in each school took part in the project's procedures, and six pairs served as controls. The project pairs met under the supervision of a teacher for 15 minutes per day, four times per week for 12 weeks. Guidelines for helpers were distributed and demonstrated in an initial briefing session. All schools used a selection of "non-scheme" books, and the children were asked to keep a record of titles they shared. In the initial interview, 94% of the children reported liking to listen to stories, and 80% reported being read to at home. Only 10% reported not enjoying reading, although 67% indicated they thought learning to read was difficult. Eight-one percent thought it important to be able to read. When asked to name someone who helps them read, 71% mentioned their teacher. Follow-up interviews indicated their increased attachment of importance of the tutor as someone who reads to them and who helps them to read. There was a marked increase in the number of children who felt they could read their favorite book (from 21% to 78%). Responses to the enjoyment of reading and the difficulty of learning to read were similar. Tutor interviews revealed that 86% felt their reading

had improved; teachers corroborated those feelings and reported the tutors' enjoyment of the project. The average number of book titles shared was 16; the range was from 12 to 27. Although the standardized test score gains were not statistically significant, children in the project made greater gains than the control group pairs.

HANNON, PETER; JACKSON, ANGELA; & PAGE, BERYL. Implementation and take-up of a project to involve parents in the teaching of reading. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 54-64.

Reports the procedures used and the responses of parents to a reading project in a low-income school in England which encouraged parents to listen to their children read daily. In an attempt to explore pre-project parental involvement with their children's reading, parents of 76 children in two cohorts who went through the school immediately before the project was initiated were interviewed as to their efforts to help their children learn to read. The proportion of children reported to be read to almost daily was 38%. The project began in 1978-79 and involved parents of children who were then five years old over a three-year period. Two additional cohorts of children were introduced to the project in its second and third years. Teachers in the project sent home books and suggestions as to what the children could read to their parents. Parents were encouraged to mark a card to indicate if the children had read and space was provided for their comments. As the program progressed, children were given more freedom to choose their at-home reading book. Support for parents was offered by the school, including letters, meetings, an introductory video, and at-home visits by the project coordinator. Parental interviews conducted when children had finished two years in the project indicated that 90% of the chidlren were said to read almost daily to someone. Use of school books for reading had been reported by 61% of the pre-project children, while 100% of the project children read school reading books. The use of other reading materials, however, also increased. The mean home reading frequency, derived as a proportion of the number of reading events at home to the total occasions in which reading was prescribed, was 74%.

IV-17 Attitudes and affect toward reading

ROSS, ELINOR P., & FLETCHER, R.K. Responses to children's literature by environment, grade level, and sex. *Reading Instruction Journal*, Winter 1989, *32*(2), 22-28.

Studies the effects of environmental differences on children's knowledge of, exposure to, and attitudes toward literature. A questionnaire was administered to 189 rural Tennessee children, 209 inner-city children, and 202 children from a school in a university town. Children were in grades 3, 4, and 5. ANOVA techniques were used in analyzing data and revealed that: (1) girls had better attitudes toward reading than did boys, (2) university-town pupils had significantly better attitudes toward reading than did other groups, and (3) third graders had better attitudes toward reading than did older pupils. Pupils in the university town outperformed the other groups on the knowledge part of the questionnaire and also had generally more positive attitudes toward reading. Inner-city children scored next most positive in attitudes toward reading with rural children showing the least interest in reading.

FONTES, PATRICIA J., & ARCHER, PETER. Preference for activities involving reading: An investigation of a scale for 4- to 9-year olds. *Proceedings of the Eighth Annual Conference of the Reading Association of Ireland*, 1983, 161-196.

Presents results of an investigation of a scale for measuring young children's preference for activities involving reading. The report is a pilot study of the impact of beginning

reading instruction at different ages in three countries (Portugal, U.S.A., and Ireland). Using a forced-choice picture task, 150 children in each of three age groups (ranging from $4^1/_2$-$9^1/_2$) indicated which of two depicted activities they preferred. Scores were based on the number of occasions in which reading was preferred to other activities. Cronbach alphas reliability coefficients ranged from .06 to .75, with acceptable levels of reliability for older children in all countries. Of the total group of 432 tested children, 13 scored zero and 4 had scores of 10; the modal score of three was attained by 93 children. Only 12% of the children scored seven or greater, indicating a relative "liking for reading." Means scores of boys and girls did not differ significantly either by sex or by country. Coefficients of correlation obtained for each of the items and total test scores indicated that reading fared worst against activities that involved skill in movement. The junior scale appeared to measure a different construct than the senior and not to measure quite the same construct in the three groups. Further indication for the scale's construct validity was obtained from factor analysis of item responses. The researchers indicated that evidence for construct validity was quite good at third year and reasonably good at first. Two way analyses of variance by level and country for total scale scores and for subscale scores (items related to home and school) were conducted separately for boys and girls. Only the factor level was significant. Scores for both boys and girls were consistently higher in third year than in previous years.

BEENTJES, JOHANNES W.J., & VAN DER VOORT, TOM H.A. Television's impact on children's reading skills: A review of research. *Reading Research Quarterly*, Fall 1988, *23*, 389-413.

Discusses three hypotheses formulated to explain the influence of television on children's reading skills, reviews the research on the role of television in the development of reading skills, and suggests directions for future research. Hypotheses reviewed explain why television might influence reading skills positively (facilitation hypothesis), negatively (inhibition hypothesis), or not at all (no-effect hypothesis). While the research findings are inconsistent and equivocal, in general most of the research supports the inhibition hypothesis. The relation between television viewing and reading achievement is more complex than initially thought. Conditions influencing the magnitude and direction of the relation include viewing time, types of television programs, IQ level, gender, age, and type of reading subskill. Heavy viewers, socially advantaged children, and bright children tend to be more vulnerable to the inhibition effect of television.

RODERICK, JUANITA A., & JACKSON, PATRICIA. TV viewing habits, family rules, reading grades, heroes and heroines of gifted and nongifted middle school students. *Roeper Review*, November 1986, *9*, 114-119.

Compares gifted and nongifted middle school children on a wide range of TV related habits, attitudes, and perceptions. Sixty-five gifted and sixty-five nongifted children in grades 5, 6, 7, and 8 responded to a 43-item questionnaire that surveyed their attitudes and habits regarding TV viewing. One-third of the items on the questionnaire revealed significant differences between gifted and nongifted students. Among the many findings were that gifted students did most of their TV viewing on weekends rather than after school, preferred to read rather than watch TV, and had parents who exercised greater control over program selection and amount of viewing time. Nongifted girls identified with, and wanted to be like, major TV characters more than their gifted peers. When asked for possible program changes, the gifted requested more intelligent games shows, biographies, documentaries, and more educational programming. Nongifted children, on the other hand, requested more of the same.

SARACHO, OLIVIA N., & DAYTON, C. MITCHELL. A factor analytic study of reading attitudes in young children. *Contemporary Educational Psychology*, January 1989, *14*, 12-21.

Attempts to identify dimensions of reading attitudes among young children and to ascertain whether there are developmental changes in these dimensions. Subjects were 372 boys and 372 girls each at ages 3, 4, and 5. The *Preschool Reading Attitudes Scale*, a 34-item instrument, was used to assess feeling toward reading and to diagnose aspects of a child's reading environment. The 34 statements were categorized into four reading environmental areas: (1) School Reading Activities, (2) Nonschool Reading Activities, (3) Library Reading Activities, and (4) General Reading Activities. Factor analysis procedures, performed separately for each age group, were utilized in analyzing data. Two factors reflective of reading attitudes were identified for each age group. At age 3, general reading and library reading were identified as Factors 1 and 2; at age 4, general reading was found as Factor 1 and listening and library as Factor 2. Five-year-olds showed oral reading as Factor 1 and library reading as Factor 2. Similar factor structures were noted across sexes.

LEY, TERRY C.; SCHAER, BARBARA B.; WRIGHT, JONE P.; & NEAL, KATHY S. Relations among dimensions of reading attitudes and stages of internalization of reading attitudes held by prospective teachers. *Perceptual and Motor Skills*, October 1988, *67*, 407-414.

Asks how two reading attitudes scales are related. The 198 undergraduate education majors who served as subjects were asked to complete the *Teale-Lewis Reading Attitudes Scales* and the *Mikulecky Behavioral Reading Attitudes Measure*. Canonical analysis, used to estimate relations between the sub-scales of the Teale-Lewis and the Mikulecky stages of internalization of reading attitudes, indicated that the subscales were related with one significant function accounting for 64% of the variance. All subscales contributed significantly to the correlational analysis. A two-way MANOVA with three dependent measures and two independent measures gave the five Mikulecky stages as the one significant main effect. Classified at the two highest stages on the Mikulecky were 38 participants, while 118 were classified at one of the two lowest levels.

QUINN, BILL, & JADAV, AMEETA D. Causal relationship between attitude and achievement for elementary grade mathematics and reading. *Journal of Educational Research*, July/August 1987, *80*, 366-372.

Attempts to determine if a causal relation exists between attitude and achievement for elementary pupils in mathematics and reading. A cross-lagged panel analysis technique was used to perform a secondary analysis of data collected from three studies. The studies were conducted in different locations using different measures of attitudes and achievement that were administered at about the same time. No evidence was found of a predominant causal relation between attitude and achievement for either mathematics or reading.

HENK, WILLIAM A., & HOLMES, BETTY C. Effects of content-related attitude on the comprehension and retention of expository text. *Reading Psychology*, July-September 1988, *9*, 203-225.

Asks whether readers' prior attitudes affect initial learning and retention of information on a controversial topic (nuclear power). Forty-four undergraduates enrolled in two reading methods classes served as the initial sample and were administered a 14-item Likert scale designed to determine attitudes toward the topic. The 15 students most pro in attitude and the 15 most negative were used as the final sample. Prior knowledge was assessed by 12 open-ended questions. A 2500-word pro-nuclear article was given to subjects to be read; written recalls and responses to 20 multiple-choice questions on explicitly stated facts were collected. The multiple-choice questions were administered again two weeks later. With related prior knowledge held constant, no significant differences were formed between groups on any measure.

FORD, KAREN L. Reading and writing as tools for independent learning: The content area classroom at the crossroads. In Donavon Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.) *The Dilemmas of Teaching Reading*. Eighth Yearbook of the American Reading Forum, 1988, 35-40.

Explores the nature and use of reading and writing when self-selected. One fourth grade classroom with 18 pupils and two eighth grade science classes with a total of about 50 children were observed over a four month period. Pupil interviews were utilized also. Interview data fell into the following categories for both reading and writing: teacher-initiated reading or writing to learn, teacher-initiated reading or writing for practice, pupil-initiated reading or writing to study, and pupil-initiated reading or writing for fun. Classroom observations showed differences at the two grade levels. The grade eight science classes were conducted largely by lecture, with classroom behaviors about 45% student initiated and 55% teacher initiated; only 76% of classroom behaviors involved learning or activity directly related to the content area of science. At grade four level, behaviors were 60% pupil initiated and 40% teacher initiated. At grade eight, pupils chose to use reading and writing 12% of the time; at grade four, 32% of the time.

WHELDALL, KEVIN, & ENTWISTLE, JUDY. Back in the USSR: The effect of teacher modelling of silent reading on pupils' reading behavior in the primary school classroom. *Educational Psychology*, 1988, *8*(1/2), 51-66.

Carries out a series of four studies in British primary school classes to determine whether or not teacher modelling of appropriate reading behavior during uninterrupted sustained silent reading (USSR) would lead to increases in the amount of time pupils spend reading. Two schools were involved, with a third- and a fourth-year junior class in each school involved. During baseline observations in the classrooms, teachers listened to individual readers or pursued some other task while children read silently; during intervention, teachers read from their own books and were not to be disturbed. Observation schedules were employed in recording time spent reading. Observations lasted for the first 15 minutes of each USSR session of 15-20 minutes duration. Study 1 was identified as a pilot study conducted over a six-week period during the autumn term in one fourth-year class. Study 2 utilized the other three classrooms and took place in the spring term over an eight-week period. In Study 1, baseline on-task behavior ranged from 39% to 63%, while the on-task behavior during intervention ranged from 66% to 82%. When baseline conditions were reinstated, on-task behavior dropped to a mean of 56% and rose to a mean of 82% when intervention was reapplied. Study 2 gave similar results. For Study 3, nine children from Study 1 were studied during the second half of the spring term. Six daily observations were collected over a two-week baseline period and three observations over one-week periods during subsequent intervention and reversal phases. The children were observed on five occasions at three-minute intervals during each observation session, with each child observed once every three minutes for a 15-second period. Overall mean percentages of on-task behavior during baseline observation, intervention, and reversal phases were 72%, 84%, and 70%, respectively. Study 4 was carried out following the second study during the summer term, using the teacher and pupils of one third-year class. Four phases were included: baseline, a teacher writing as opposed to reading intervention, return to baseline, and return to first intervention of teacher reading. Mean percentages of on-task behavior in the four phases were 63%, 74%, 64%, and 85%.

RASINSKI, TIMOTHY V. Home reading behavior of high and low reading ability third- and fifth-grade readers. In Donavon Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.) *The Dilemmas of Teaching Reading*. Eighth Yearbook of the American Reading Forum, 1988, 81-85.

Questions if differences exist in the frequency and amount of time devoted to reading at home by self-report of high and low performing elementary pupils. Subjects, 46 third- and 40 fifth-grade children, were equally divided into high and low achieving reading groups, based on the results of the GMRT. Third-grade subjects reported on frequency of reading at home. Fifth graders rated how often they read at home and estimated the number of minutes spent reading at one time. Each child was interviewed individually. A significant difference between high and low achieving pupils in frequency of home reading was found for both grade levels (chi-square analysis). Although fifth-grade high ability children spent greater lengths of time reading than low ability children, the difference was not significant.

IV-18 Personality, self-concept, and reading

McPherson, Carolyn, & Rust, James O. Relationships among popularity, reading ability, and self-concept in second-grade children. *Reading Improvement*, Winter 1987, *24*, 282-289.

Investigates relationships among popularity, reading, and self-concept in 79 second-grade children from four classrooms. Evaluation instruments included the MAT, the McDaniel-Piers *Young Children's Self-Concept Scale*, a popularity rating, and a measure of socioeconomic status. Popularity scores were determined using the total number of nominations each child received when children were asked to rank the 10 most popular pupils in their grade and the six most popular in their room. It was found that high SES children were more popular than low SES children and that unpopularity was significantly (and negatively) correlated with reading ability, self-concept, and SES. In addition, weak readers were found to be significantly more unpopular than stronger readers, particularly among males. Among weaker readers, low SES children were more unpopular than high-SES children. The authors conclude that SES in the most powerful correlate of popularity.

Smith, Theresa L., & Eason, Robert L. Effects of a success-oriented reading and motor program on self-concept of children referred for learning disability. *Perceptual and Motor Skills*, August 1988, *67*, 94.

Reports the effects of a success-oriented reading and motor program on the self-concepts of 65 LD children, ages 7-12. Children received 40 minutes each of trampoline and physical fitness, specific perceptual motor activities, and reading tutoring daily for six weeks. Pre- and posttest scores on the *Martinek-Zeichkowsky Self-concept for Children* indicated a significant increase in mean self-concept.

Cochran, Kathryn F., & Davis, J. Kent. Individual differences in inference processes. *Journal of Research in Personality*, June 1987, *21*, 197-210.

Compares the differences in speed and accuracy of inference processing and working memory capacity between field independent and field dependent students. A group of 246 undergraduates were classified as field dependent or field independent on the basis of the *Hidden Figures Test*. In addition, the *Advanced Vocabulary Test* was administered as a possible covariate. Subjects individually completed two tasks: a sentence verification task and a working memory task. For the sentence verification task, subjects read eleven passages and responded to eight true-false sentences. Sentences consisted of necessary and unnecessary inferences, paraphrases, and true or untrue explicit statements. Speed and accuracy were recorded. The working memory task consisted of reading sets of sentences aloud and recalling the last word in each sentence in correct order. An analysis of the results found that reaction times were significantly faster for true than for false sentences for all subjects. Significantly faster reaction times were also found for field independent subjects. For field de-

pendent subjects, necessary inferences took significantly longer to verify. No significant differences in accuracy were found between field dependent and field independent subjects when error data were analyzed. Field independent subjects had significantly higher working memory scores and subjects with the largest working memories made the fewest errors on unnecessary inferences.

REED, KEFLYN X. Expectation vs. ability: Junior college reading skills. *Journal of Reading*, March 1989, *32*, 537-541.

Sees whether junior college students' self perception of reading ability meshes with reading test scores, GPA, and retention rates. Entering freshmen (n = 443) were administered the NDRT and the ACT ASSET. Of the total, 288 were enrolled in reading courses on the basis of the two test scores. Included were 68 who took a course for students reading at the college level and 133 who took a course for students reading between grades 9.0-12.9. Students also responded to questions asking whether they need help in reading, writing, and mathematics. Students' estimates of their need for help were not related to tested reading ability on the NDRT. Using NDRT scores, 40 of 46 who had scores at or above grade level 13.0, 122 of 176 who scored between 9.0 and 12.9, and 119 of 221 who scored below 9.0 remained in school for three quarters. Students who checked that they needed help achieved a 2.81 GPA: those who checked "maybe," achieved a 2.61; those who checked that they did not need help achieved a mean 2.11 GPA. Students scoring lowest on the NDRT also had the lowest mean GPA and those scoring highest had the highest mean GPA.

WINOGRAD, PETER, & NIQUETTE, GARLAND. Assessing learned helplessness in poor readers. *Topics in Language Disorders*, June 1988, *8*, 38-55.

Reviews the research literature related to learned helplessness and reading. Particular emphasis in placed upon the assessment of learned helplessness and the problems inherent in such assessment. The author recommends that emphasis be placed upon systematic observation and discussions/interviews with children as more promising ways to assess learned helplessness than searching for some type of paper-pencil measure. An extensive reference list accompanies the article.

ANDERSON, TERESA. Learning styles, are they still in fashion? *New England Reading Association Journal*, Summer 1988, *24*(2), 9-17.

Determines the presence of different learning styles in third grade children. The Reading Style Inventory (RSI) was administered individually, then in a group setting, to a class of third graders. Individual pupil results were presented for Perceptual Strengths/Preferences, Preferred Environment, Physical Preferences, Sociological Preferences, and Emotional Profile. When individual performance was summarized, no distinction in learning style of readers at different levels of achievement was found. Some successful readers as well as some below average readers were found to have the same predominant learning style.

SHELL, DUANE F.; MURPHY, CAROLYN COLGIN; & BRUNING, ROGER H. Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology*, March 1989, *81*, 91-100.

Explores the relation between self-efficacy and outcome expectancy beliefs and achievement in reading and writing. Subjects were 153 undergraduates in a teacher preparation program. Self-efficacy instruments for reading and writing each contained two subscales: a task subscale and a component skill subscale. Outcome expectancy instruments consisted of 7-point Likert scales calling for subjects to rate the importance of reading and writing for achieving various life goals. Reading achievement was assessed by the *Degrees of Reading Power* test and writing by an essay which was holistically scored. Multiple regression analyses used in analyzing data indicated that self-efficacy and outcome expectancy be-

liefs jointly accounted for significant variance in reading achievement, with self-efficacy as the stronger predictor. Self-efficacy accounted for significant variance in writing achievement. Canonical correlation analysis resulted in identifying a single underlying dimension linking beliefs and achievement for reading and writing. Reading beliefs and achievement contributed most strongly to the relation.

BORKOWSKI, JOHN G.; WEYHING, ROBERT S.; & CARR, MARTHA. Effects of attributional retraining on strategy-based reading comprehension in learning-disabled students. *Journal of Educational Psychology*, March 1988, *80*, 46-53.

Gauges the impact of attributional retraining on improving reading comprehension of LD children. The 75 subjects ranged in age from 10 to 14, were enrolled in special education classes, and were reading at least two years below grade level. Children were randomly assigned to one of four groups: (1) Reading Strategies Plus Complex Attribution, (2) Reading Strategies Plus Attribution, (3) Attribution Control, and (4) Reading Strategies Control. Subjects in Group 1 received attributional retraining on paired-associate and sort-recall tasks, instructions on the use of a summarization strategy, and attributional statements about the efficacy of the instructional strategy. Group 2 received the same treatment without prior attributional retraining on unrelated paired-associate and sort-recall tasks but with attributional statements embedded in the summarization strategy. Group 3 controls received strategy training only, and Group 4 received neither strategy nor attribution training. Findings indicated that attributional training enhanced the maintenance of the summarization strategy and selectivity facilitated generalization. However, long-standing antecedent attributional beliefs were not changed by attributional training.

IV-19 Readability and legibility

RUBIN, ANDEE, How useful are readability formulas? In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 61-77.

Discusses the origin and use of readability formulas. The paper opened with a history of readability formula development. Next, problems with readability formulas were identified. Problems cited were the omission of crucial text variables, the uncertain statistical basis of readability formulas, inappropriate uses of readability formulas, and sociological problems. A new view of the reading process was presented along with alternative methods for choosing appropriate texts.

JOHNSON, C.K., & JOHNSON, R.K. Readability. *School Science Review*, March 1987, *68*, 565-568.

Reports the readabilities of twenty-one physics textbooks. As an update to an earlier study, three readability formulas (Gunning, Fry, and McLaughlin) were applied to twenty-one physics textbooks published since 1978. Readabilities were calculated on eight topics found in all of the books. The average reading level of the books, RA of 15 years, exceeded the age of the typical students using the books. A comparison showed that the average RA of the books had declined one year when compared to the average of physics books published before 1978.

FUSARO, JOSEPH A. Applying statistical rigor to a validation study of the Fry Readability Graph. *Reading Research and Instruction*, Fall 1988, *28*, 44-48.

Subjects data from a previous readability study to more rigorous statistical analysis. The Dale-Chall Readability formula, the Flesch Reading Ease formula, the Farr-Jenkins-Paterson formula, and the Fry Readability Graph were applied to 10 college freshman com-

position texts. Readability levels were subjected to a 3 (writing format: paragraph, essay, research paper) × 4 (readability formula) mixed effects ANOVA with repeated measures across the second factor. Scheffé post hoc tests were performed to make individual comparisons among formulas. The readability level obtained from the Farr-Jenkins-Paterson was significantly higher than those obtained on the other three. The Fry appeared to be within one grade level of the Dale-Chall and Flesch.

FLETCHER, DONNA, & ABOOD, DORIS. An analysis of the readability of product warning labels: Implications for curriculum development for persons with moderate and severe mental retardation. *Education and Training in Mental Retardation*, September 1988, *23*, 224-227.

Examines product warning labels of potentially hazardous products in the nonfood stock of a large grocery store for warning words appearing most frequently to be taught as survival words to the moderately and severely mentally retarded. During a 4-week period the examiner recorded the product names, all warning words, information concerning the safe use of the product, and first aid instructions in case of improper use. Warning words which appeared on 169 of the 635 products examined were categorized according to grade level. The results showed that some words commonly taught, such as *poison*, did not appear on the labels. The words occurring the most frequently were included in the report. They ranged in difficulty from second to tenth grade levels.

LEGGE, GORDON E.; RUBIN, GARY S.; & LUEBKER, ANDREW. Psychophysics of reading—V. The role of contrast in normal vision. *Vision Research*, 1987, *27*(7), 1165-1177.

Explores the role of contrast and character size of text on the reading rate of five subjects with normal vision. Reading rates were highest for letters ranging in size from .25° to 2°. For 1° letters, rate decreased by less than a factor of two for a tenfold reduction in contrast. Results were similar for white-on-black and black-on-white text. Rate declined more rapidly for very small and very large letters.

KERR, STEPHEN T. Instructional text: The transition from page to screen. *Visible Language*, Autumn 1986, *20*, 368, 370-392.

Compares the nature of electronic and printed textual materials. The reviewer notes that the change to text in electronic form creates problems for both developers and users of these materials. The problems lie primarily in two areas: design of the surface and design of the interface. Surface design involves typography, layout, graphics and illustrations, and the quality of language; also involved are users' subjective reactions to these elements. Interface design is closely tied to the "wayfinding problem"—helping users navigate through the text. The wayfinding problem manifests itself on three different levels: the immediate structure of the test (how information is provided at the page level), the internal structure (how such information is provided within a given document), and the external structure (navigational aids that allow users to move from one document to another). Three directions for further research are identified: realistic studies of use and search through electronic text; studies of how users represent to themselves the structures of text; and how users might best be introduced to environments incorporating electronic text.

ROSSI, JEAN PIERRE, & EHRLICH, MARIE-FRANCE. Reading a text: The effects of typography and cognitive processing on eye movement strategies. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 531-539.

Notes the effects of one perceptual factor (typography) and one cognitive factor (collect specific information) on eye movement strategies while reading. Subjects were 100 native

French speakers, for 84 of whom complete data were obtained and analyzed. Subjects read a 225-word text to determine if several propositions based on the text content and given before reading were true or false. Propositions were both explicitly stated and inferential. Texts were given in either a usual or unusual typography condition, with the latter resulting in a longer line length. A comprehension check followed a second reading. In the unusual typography condition, subjects made more progressive saccades. Typography affected mostly progressions of eye movements while cognitive factors affected mostly regressions. No interaction between the two factors was noted.

GAMBRELL, LINDA B.; BRADLEY, VIRGINIA N.; & MCLAUGHLIN, ELAINE M. Young children's comprehension and recall of computer screen displayed text. *Journal of Research in Reading*, September 1987, *10*, 156-163.

Compares the effects of reading text displayed on a computer screen with reading traditional printed text on comprehension and recall. A sample of 26 third-graders and 36 fifth-graders were randomly assigned, by grade level, to one of two treatment conditions. One-half read a basal story from a computer monitor; the other half read the same story, displayed in a similar format, from a traditional printed booklet. All pupils produced a free recall of the story they read, answered eight cued recall questions, and completed an attitude survey. No significant differences were found at either grade level between treatment groups for either free recall or cued recall. The results of the attitude survey indicated that children were more interested in reading text from a computer monitor but found the computer stories more difficult to read.

REINKING, DAVID. Computer-mediated text and comprehension differences: The role of reading time, reader preference, and estimation of learning. *Reading Research Quarterly*, Fall 1988, *23*, 484-498.

Compares the effects of reading text on a computer monitor versus reading traditional printed text. A repeated measures design was used in which 33 fifth- and sixth-grade subjects read passages under four conditions: (1) on printed pages with no assistance, (2) on computer with no assistance, (3) on computer with the freedom to choose options for assistance, and (4) on computer with all options for assistance required. Data were collected on four dependent measures: comprehension, reading time, passage preference, and estimation of learning. An analysis of comprehension scores indicated a significant main effect for treatment. Subjects comprehended better when text was presented on computer with optional or mandatory assistance. Subjects also spent significantly longer time reading and studying passages when options for assistance were available. No significant differences in passage preference nor estimation of learning were found between computer-displayed and printed text. No significant effects for reading ability were found on any of the dependent measures.

CHEN, HSUAN-CHIH; CHAN, KIN-TONG; & TSOI, KAM-CHEONG. Reading self-paced moving text on a computer display. *Human Factors*, June 1988, *30*, 285-291.

Investigates the readability of self-paced moving text with window size and jump length varied. Subjects were 18 undergraduates at the Chinese University of Hong Kong, all of whom had acquired English as a second language beginning in first grade. Subjects read 22 paragraphs, each displayed on a microcomputer screen. Window sizes of 20 and 40 character spaces and jump length of 1, 5, and 9 spaces were used. In each of two 30-minute sessions, subjects first read two practice passages and then three passages in each of the three jump conditions. Following each passage, subjects answered four multiple-choice questions on the text. Words per minute and mean percentages of correct responses to questions were calculated. Variations in jump length produced marked differences in both reading rate and efficiency. Text presented in the one-character condition was read approximately 50% slower and about 40% less efficiently than text in the other two jump conditions. Windows of 40-

character spaces were read equally quickly but were somewhat less readable in comparison with 20-character windows. In the one-character jump condition, comprehension was higher in the 20-character windows than in the 40-character windows.

SYLLA, CHEICKNA; DRURY, COLIN G.; & BABU, A.J.G.. A human factors design investigation of a computerized layout system of text-graphic technical materials. *Human Factors*, June 1988, *30*, 347-358.

Submits a questionnaire to 14 human factors personnel in order to collect input in an effort to design algorithms for page splitting and page layout and presents results. Training materials from the Training Analysis and Evaluation Group, a department of the U.S. Navy, were selected and used in the questionnaire. The materials included three procedures with a total of 112 steps. Pictures were placed alongside each task sequence. Participants were to mark the procedure at the points they would require a split and were asked to describe the heuristics used in splitting the sequence of tasks to ensure that a given sequence fit naturally onto a page. From an analysis of the heuristics used for page splitting, an algorithm was devised that closely matched human page-splitting results. Layout of individual pages was automated with an algorithm based on the significant consensus among subjects on questions of graphics positioning and label ordering. The two algorithms were then combined in a computer-aided design procedure that automatically pages task lists and lays out individual pages.

MUTER, PAUL; KRUK, RICHARD S.; BUTTGIEG, MARY ANNE; & KANG, T. JIN. Reader-controlled computerized presentation of text. *Human Factors*, August 1988, *30*, 473-486.

Introduces and tests in a series of five experiments techniques for self-pacing and regressions in rapid serial visual presentation (RSVP). Canadian university students, numbering 24 to 32 in the various experiments, served as subjects. Self-pacing was permitted in RSVP in which words were presented sequentially at a fixed locus. In the last four experiments, regressions were also allowed in RSVP. Larger regressions resulted in slower reading. Regressions back to the beginning of the sentence were more frequent than regressions back two words. There was no difference in reading speed or comprehension caused by the nature, analogue (mouse) or digital (keystroke) of the control over reading speed, but there was a greater tendency to change speed in the analogue condition than in the digital condition. In the last experiment, students read for more than two hours in the RSVP condition with self-pacing and regressions or in a normal page condition. Subjective reports of discomfort did not differ for the two conditions, but reading speed in the RSVP condition was about half that in the page condition.

RENKEMA, J. On functional and computational LSP analysis: The example of officialese. In A.K. Pugh & J.M. Ulijn (Eds.) *Reading for Professional Purposes*. London: Heinemann Educational Books, 1984, 109-119.

Uses computational linguistics to examine Dutch officialese. A sample of Dutch government publications were examined through the use of a computer program capable of analyzing the form and function of written language. The characteristics found in bureaucratic language were compared to those found in newspapers and popular scientific prose. It was found that bureaucratic language contains significantly more nouns than newspapers and scientific prose. No significant differences were found for participles used as nouns. Type-token ratios were calculated for a variety of types of prose. Bureaucratic language was found to yield a significantly lower type-token ratio than newspapers, women's weeklies, and popular scientific prose. Guidelines are provided for conducting similar kinds of research on language for special purposes.

PANY, DARLENE, & MCCOY, KATHLEEN M. Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities. *Journal of Learning Disabilities*, November 1988, *21*, 546-550.

Examines the effects of corrective feedback during oral reading on the word recognition and comprehension of disabled readers. A repeated measures design was used to administer three passages under three different conditions to a sample of 16 learning disabled third graders. In the Total Feedack condition, the examiner provided feedback on all oral reading errors; in the Meaning Change Feedback condition, feedback was given only for errors that alter the meaning of the sentence in which they occurred; in the No Feedback condition, no feedback was given on any oral reading errors. Four dependent measures of word recognition were collected (total errors made while reading orally, meaning change errors made while reading orally, an error word list given immediately after reading, and a delayed error word list) along with two measures of comprehension (retelling and free response questions). ANOVA results revealed significant treatment effects on all four word recognition measures and the comprehension questions. In the Total Feedback condition, children made significantly fewer errors and scored significantly higher in comprehension than they did in either the Meaning Change Feedback or No Feedback conditions. No treatment effect was found on retelling.

CHEN, HSUAN-CHIH, & TSOI, KAM-CHEONG. Factors affecting the readability of moving text on a computer display. *Human Factors*, February 1988, *30*, 25-33.

Investigates variables related to the effect of text presentation on a computer screen on reading comprehension. In two experiments, text was horizontally advanced in discrete jumps of one or several characters at a time along a single line on a computer-controlled screen (i.e., the leading text display format). In Experiment 1, jump length, display rate, and window size were varied independently for 24 undergraduates from the Chinese University of Hong Kong. Comprehension was assessed by subjects' answers to questions over the displayed passages; the tested passages were selected from the McCall-Crabbs test series. Results showed that when the display rate was relatively fast or when the window size was relatively small, jump lengths of five character spaces resulted in higher comprehension scores than did one- or nine-character jump conditions. A second group of 24 undergraduates participated in Experiment 2, using the same materials and viewing conditions. Experiment 2 examined the effect of allowing on-line subject control over the display rate of reading texts presented in the leading format. Results showed that permitting the subject to control the rate of text presentation did not improve reading comprehension. However, when the rate of text presentation was under the control of the subject, reading efficiency (Rate X Comprehension) improved with practice.

DEAN, RAYMOND S.; SCHWARTZ, NEIL H.; & GRAY, JEFFREY W. Inducing comprehension in the inconsistently lateralized reader. *Cognitive Neuropsychology*, 1988, *5*(2), 267-288.

Reports three studies that examine the effects of visual-spatial organization of prose material on the comprehension of adults with varying patterns of lateral dominance. In the repeated measures, factorial design used in Experiment 1, two levels of lateral preference (consistent right lateralization vs. inconsistent right lateralization) were crossed with three levels of prose organization (forward vs. backward vs. phrased). Lateral preference was determined by the use of the *Laterality Preference Schedule*. A sample of 30 college students read three passages (one passage in each spatial organization) and completed a free recall and multiple-choice comprehension test. Highly consistent right-lateralized subjects scored significantly better in recall and on the multiple-choice test. A significant interaction between

laterality group and text condition was found for recall but not the multiple-choice test. Phrased presentation aided subjects with inconsistent lateralization more than their consistent counterparts. In Experiment 2, two prose presentations were created to determine whether the phrased presentation effects found in the first study were due to shortened lines or linguistic units. Adult subjects received prose materials in both a phrased and a short-line presentation. The multiple-choice test was converted to a free response measure. No significant main effects or interactions were found for either dependent measure. Experiment 3 focused on the differential effects of variations in length of word strings. Passages used in the first study were presented in three line lengths: standard, reduced, and short. Subjects with consistent, or high, right-lateralization scored significantly better on both posttest measures. A significant interaction revealed that the inconsistent, lateralized group performed better when text was presented in short lines.

IV-20 Literacy acquisition

WELLS, GORDON. Apprenticeship in literacy. Interchange, Spring/Summer 1987, *18*(1-2), 109-123.

Proposes a four-level taxonomy for categorizing the ways in which literacy is defined operationally in education and then applies the taxonomy to research on early literacy development. The first level of literacy is called the *performative*. At this level the emphasis is on going from code to code (i.e., decoding print into speech or encoding speech or encoding speech into print). The second level is labeled the *functional*. Attention at this level focuses on everyday literacy tasks used for interpersonal communication. The *informational* level is the third level of the taxonomy. At this level, reading for information, particularly discipline-based knowledge is emphasized. The fourth level is the *epistemic*. Here the emphasis is on ways of acting upon and transforming knowledge and experience (i.e., literate behavior as a mode of thinking). A review of recent studies on early literacy development revealed that all children develop an understanding of the forms and functions of written language and that cultural groups differ in how they organize literacy activities for early learners. It is argued that only a model of literacy that recognizes the importance of the epistemic level is acceptable for schools, regardless of the cultural background of the students.

STUART, MORAG, & COLTHEART, MAX. Does reading develop in a sequence of stages? *Cognition*, November 1988, *30*, 139-181.

Reports a longitudinal study of beginning reading acquisition designed to delineate qualitative differences in reading performance between children assessed as either phonologically skilled or unskilled prior to the initiation of reading instruction. Of interest was identification of the stages of development exhibited by the beginning readers. Subjects were 36 nursery school children who were nonreaders at the initiation of the study. Six phonological tests, designed and validated by the researchers, were given prior to reading instruction to establish baseline data. Once the children entered school, their knowledge of letter names and letter sounds was tested repeatedly. Other measures included tests of word reading and assessments of reading ages at the end of each school year for four years. The results of analyses suggested that (1) even if learning to read is conceptualized as a sequence of stages, not all children pass through the same sequence of stages, (2) phonological awareness and reading acquisition have a reciprocal interactive causal relationship, not a unidirectional one, and (3) phonological skills can play a role in the very first stage of learning to read among phonologically adept children.

KASTLER, LESA A.; ROSER, NANCY L.; & HOFFMAN, JAMES V. Understandings of the forms and functions of written language: Insights from children and parents. In

John E. Readence & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 85-92.

Reports an investigation of prereaders' knowledge about written language as gauged from the children's descriptions of the forms and functions of selected written language examples. Specifically, the study attempted to learn what children growing up in homes in which an older child had already achieved success with learning to read knew about print. Forty-seven younger siblings of successful first-grade readers, ranging in ages from two to five, were engaged in an interview/conversation centering on a set of color slides selected to represent a comprehensive sample of written language in natural contexts. The slide interview attempted to tap the child's notion of the form, function, and typical user of the print example. Children were asked to identify the print form, its type, and who might typically use the print form. At least one parent of each of the preschoolers observed their child's responses and provided insights about the responses as well as explanations of their children's literacy development in a follow-up interview. Children's responses were analyzed to the extent that they reflected rather than reproduced a literate person's knowledge of print forms and function, and for form-function changes by print types across age groupings. Dominant themes with respect to how their children became literate were gathered from parent interview tapes. Results showed that older children supplied more correct labels and more precise explanations of print use than did younger children. At each age level, children identified more of the form or formats of print than print functions. Even so, the gap between form and function knowledge narrowed with age. Five major themes characterized the parents' attributions for their children's success: (1) parent modeling an interest/value in reading; (2) reading to children; (3) helping and encouraging children to read; (4) effect of older siblings; and (5) characteristics of the children themselves.

HIEBERT, ELFRIEDA H. The role of literacy experiences in early childhood programs. *Elementary School Journal*, November 1988, *89*, 161-171.

Reviews the research on emergent literacy and its implications for early childhood programs. First, the nature of children's literacy accomplishments before formal reading instruction was documented. Second, the mechanisms by which young children acquire literacy behaviors, such as various parent-child activities, were identified. Third, the characteristics of conventional early childhood programs were described and contrasted with programs that take an emergent literacy perspective. Conventional programs, it was concluded, fail to build on children's existing knowledge of written and oral language. Fourth, recommendations are made for ways to strengthen the match between young children's emergent literacy and early instructional experiences.

HEATH, SHIRLEY BRICE, & THOMAS, CHARLENE. The achievement of preschool literacy for mother and child. In Hillel Goelman, Antoinette A. Oberg, & Frank Smith (Eds.) *Awakening to Literacy*. London: Heinemann Educational Books, 1984, 51-72.

Traces over a year-long period the book-reading behaviors of an unemployed high school drop-out mother (T) of two preschool children. The 16-year-old mother was introduced to children's books and encouraged to keep a record of her own activities as well as her two-year-old son's uses of language. T became a research associate in the project, documenting the literacy achievements of her son through tape recordings, field notes, and explanations of the tapes to the teacher, who made regular visits over the 12-month period. Initially, the project was intended not as preplanned research, but as a pedagogic way to keep T in touch with her teacher, and specifically, to continue to involve her in the community of writers that had been established in her ninth grade English class. The initial field notes and tape

recordings made by T were her historical accounts of the child's learning to talk. During early storybook reading sessions, the youngster stood in front of his seated mother and was instructed to say (pronounce) names of pictures without necessarily having those pictures pointed to or held up. Much of the time, these sessions became requests for repetitions of words unrelated to the book. After four months, the first bedtime story read occurred and partial transcripts are included. Literacy growth was evidenced by T's letters to the researcher and through the teacher's field notes. There were also indications that T had learned how and when to read, how to hold her son and the book, how to focus attention on the book, and how to adjust the strict reading/topic commenting to the child's demands. Behavior shifted to more use of simplified language input, more dyadic interactions outside nurturing situations, and the beginning use of some teaching questions/topic-comment structure. Adults in the household shifted orientations to more engagement of the children as participants in pointing out and labeling behaviors. Heath notes the importance of parents as co-researchers as a possible model of parent education.

MORROW, LESLEY MANDEL. Young children's responses to one-to-one story readings in school settings. *Reading Research Quarterly*, Winter 1988, *23*, 89-107.

Investigates whether frequent one-to-one story readings in a school setting increases the number and complexity of comments and questions of low SES children. The 79 four-year-old subjects from three urban day-care centers were randomly assigned to two experimental groups and one control group. The *TOBE II Language Test of Basic Experiences* was administered to all children prior to the first treatment session to indicate ability level. Children in the first experimental group were read a different book each week for 10 weeks. Those in the second experimental group heard repeated readings of three different books. In both groups, interactive behavior between adult and child was encouraged during story readings. The control group was guided through traditional reading readiness activities. Children in all groups (experimental and control) were read the same books in the second and tenth sessions, respectively, and tapes of those sessions provided pre- and posttreatment data. Responses were coded into three major categories: (1) story structure; (2) story meaning; and (3) print and illustrations. ANCOVA results, conducted for each of the major categories in the posttreatment group, showed that one-to-one story readings increased the number and complexity of questions and comments made by children in both experimental groups. Repeated readings were found to result in more interpretive responses and more responses focusing on print and story structure, and were most effective with children of low ability. The researcher concluded that both repeated readings and different book readings were more beneficial for increasing verbal participation than were traditional reading readiness activities.

MORROW, LESLEY MANDEL. The effect of one-to-one story reading on children's questions and responses. In John E. Readence & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 75-83.

Seeks to discern low-SES children's knowledge of and interests concerning story meaning, print awareness, and sense of story structure from the questions and comments made during one-to-one readings in a classroom setting. Specifically, the researcher analyzed the effect of frequent story reading sessions on the number, type, and complexity of children's questions and comments about stories. Twenty-seven experimental group children were read ten different picture books over a ten week period; research assistants who read to the children were instructed with specific procedures for prompting verbal responses from the listeners. The 27 control group children also met with research assistants, but worked on reading readiness tasks. Pre- and posttests consisted of story reading sessions with both groups in which children were encouraged to ask questions or make comments. Children's questions

and comments were counted and categorized into types according to their focus. ANCOVA indicated a statistically significant difference between groups for both total questions and total comments, favoring the experimental group. Experimentals also gave more meaning responses and talk related to story structure and illustrations. There was no difference between groups for responses focusing on print.

TEALE, WILLIAM H. Reading to young children: Its significance for literacy development. In Hillel Goelman, Antoinette A. Oberg, & Frank Smith (Eds.) *Awakening to Literacy*. London: Heinemann Educational Books, 1984, 110-121.

Reviews selected research related to reading to young children. Specifically, four topics are addressed: (1) the nature of the activity itself; (2) the beneficial effects that reading to children has on their literacy development; (3) the role of story (or narrative) in the informal development of literacy; and (4) the importance of being read to in the process of learning to read and write.

GIBBS, COLIN. What do beginner readers say when they 'read'? *Australian Journal of Reading*, August 1987, *10*, 158-170.

Presents two examples of beginning readers' responses to text to determine what matches exist between what the beginners said and the ideas presented in print and pictures. In the first example, a child who had demonstrated little reliance on print was shown a realistic story from the *Ready to Read* series during the second week of school and asked to read. His verbal responses were recorded and presented along with the actual text. The author noted an episodic reading with little evidence of links between episodes, few word-for-word matches, and some indication that certain details of pictures got in the way of accessing the text. Yet, there was a relatively high match between the child's story reading and explicit and implicit text propositions. In addition, the child brought his own experiences and language to the "reading" of the text. Interpretations of picture details influenced the storytelling/reading. In the second report, 12 New Zealand five-year-olds who had just begun school and who knew fewer than four sight words were asked to read a story from a new version of the *Ready to Read* series. Again, some readers/tellers were distracted by details in illustrations, attending to extraneous detail. Most, however, attempted to apply story grammar structure in their readings at some stage. The authors suggest that educators focus children's attention on print awareness so that the young child becomes increasingly print-dependent.

RASINSKI, TIMOTHY V., & DEFORD, DIANE E. First graders' conceptions of literacy: A matter of schooling. *Theory into Practice*, Winter 1988, *27*, 53-61.

Explores children's conceptions about literacy at the end of first grade to determine whether they defined and used literacy differently when taught with different reading and writing curricula. Three first grade classrooms that differed in their approach to the teaching of reading and writing were observed throughout the school year. The classroom instructional foci were labeled as mastery learning, traditional, and literature-based. In the mastery learning classroom, activities focused on word charts, workbooks, and criterion-referenced evaluations following the phonics-based reading program. Little conversation was accepted in this teacher-directed setting. By contrast, written and verbal interaction was encouraged and activities were child selected in the literature-based classroom. Trade books were the predominant reading material and children shared and heard published works read aloud as well as their own written work many times daily. The traditional classroom included some components from each of the other two classrooms. Pupil interviews were conducted at the end of the school year. A seven-point scale was used to rate responses from an analytic to a holistic view of literacy. Reading and writing in the mastery learning classroom were rated as the most analytical of the three. In addition, the interview responses of those children demon-

strated a tendency to perceive reading and writing as something to do with words and word parts. The children in the literature-based classroom indicated the most meaning oriented view of reading. Children in the traditional class fell between the two groups, giving definitions of reading and writing that were more holistic than the mastery learning classroom, but less holistic than the literature-based class. In all three classrooms, responses showed consistency with the instructional approach used by teachers.

ELLER, REBECCA G.; PAPPAS, CHRISTINE C.; & BROWN, ELGA. The lexical development of kindergarteners: Learning from written context. *Journal of Reading Behavior*, 1988, *20*(1), 5-24.

Investigates the process involved in acquiring word knowledge from written context. Twenty prereading kindergarten children were read two picture storybooks on three separate occasions (per book) and were then invited to take their turns to "read" the books. Ten target lexical items from each book were selected for examination. Target words were selected because they were judged to: (1) be unfamiliar to most young children, seldom occurring in their conversational contexts; (2) make a significant contribution to the message of the text; and (3) be used frequently enough in the books themselves so that growth could be documented. Using an ordinal category system developed for the study, analyses of the three "readings" of each book were made which identified patterns of vocabulary growth across five identified categories of developing word knowledge. A one factor repeated ANOVA yielded a significant effect for Reading. A Tukey follow-up test indicated that lexical development significantly increased in each of the second and third readings. Process analyses documented growth patterns indicating how children learn lexicogrammatical information incidentally through exposure to written context.

SINCLAIR, ANNE, & BERTHOUD-PAPANDROPOULOU, IOANNA. Children's thinking about language and their acquisition of literacy. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 79-91.

Considers similarities in the way children think about language and their developing literacy. The authors limit their discussion to: a) reflections or knowledge of a general nature that children apply to both oral and written examples of language, as well as reflections that seem to establish links between the spoken and written systems; b) studies of literacy development in languages that are alphabetically written; and c) research performed with children aged three to seven who have not yet learned to read or are beginning to learn to read. Four parallels between language and literacy acquisitions are discussed: (1) relationships between signifier and signified (words and the things they can refer to); (2) linguistic units (segmenting utterances into words); (3) formal properties of verbal signifiers (knowledge of some formal characteristics of both written text and spoken language); and (4) and links between sound and letter (what children think about sound/letter correspondences before they are capable of reading in an alphabetic way). The reviewers suggest the following tentative interpretations of developing literacy: Children develop a gradual dissociation of the different observable forms of language (utterances, words, phrases) from their meaning. This dissociation appears necessary in order to grasp the alphabetic principle (language must be apprehended as composed of sounds, independently of meaning). Moreover, the meaning of a written text is of a fundamentally different nature from that of spoken language. To understand this difference, it may be necessary to link words and meaning in a conceptually new way, not quite the same as that used in speaking and comprehending.

EHRI, LINNEA C. How orthography alters spoken language competencies in children learning to read and spell. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 119-147.

Considers the acquisition of printed language, and both develops and presents evidence for two ideas: (1) that a visual representational system for speech is acquired when children learn to read and spell, and (2) that because print gets established in memory by being built onto the learner's knowledge of spoken language, acquisition may work various changes in children's competencies with speech. Research is examined in the areas of spelling, acquisition of phonological awareness, word pronunciations and perception of lexical segments. Concludes that written language supplies a visual-spatial model for speech, and that when children learn to read and spell, this visual-spatial model and its symbols are internalized as a representational system in memory. Various changes on spoken language occur as a result of the process of acquiring this system, especially at the phonetic and lexical levels.

GANAPOLE, SELINA J. The development of word consciousness prior to first grade. *Journal of Reading Behavior*, 1987,*19*(4), 415-436.

Investigates both the development of word consciousness prior to first grade as well as the relation between word consciousness and reading ability for 76 preschool and kindergarten children, ranging in age from three years, two months to six years, four months. All subjects (37 female: 39 males) attended a private school on the island of Oahu. Each was presented with a variety of graphic displays on cards and required to judge which ones were "something for reading." Conventional linguistic terms (e.g. letter, word, sentence) were not employed, allowing children to describe in their own ways their perceptions of the graphic displays. Results suggested that the development of word consciousness occurs through a process of gradual extension and refinement of both perceptual awareness of print features and concepts about print. The perceptions of a written word by three-year-olds were linked primarily to notions about linearity and quantity of symbols. By age four, additional characteristics such as variety of symbols and the "unit" aspect of a word were used as criteria for judging whether something is "for reading." By age five, the transition from reliance on the superordinate structural features of writing to a stage in which the distinctive features of the symbols take precedence was in progress. Additional findings indicated a strong relation between word consciousness and beginning reading ability, when reading ability is defined as ability to identify letter names and seven high frequency words.

CHANG, YE-LING, & WATSON, DOROTHY J. Adaptation of prediction strategies and materials in a Chinese/English bilingual classroom. *Reading Teacher*, October 1988, *42*, 36-44.

Investigates the effects of teaching prediction strategies to beginning Chinese readers. Four Chinese children attending a U.S. kindergarten served as subjects. All four spoke English well and were learning to read in English. One child was bilingual in Chinese and English. The children underwent two 15-week training programs in which they received instruction in prediction strategies using Chinese orthography. Instruction focused on the use of predictable reading materials, repetitive structures, cumulative patterns, rhymes, matches between illustrations and text, and content relevant to the children's experiences. The *Literacy Behavior Inventory* was used to evaluate the children's responses to prediction strategies. Pupils looked at books and pictures as a self-initiated activity, knew how to hold and read books, learned how to point to Chinese characters or a Chinese phrase and assign an oral response when the characters were in context, read rhymes, read syntactic groups of words more proficiently than individual words, and exhibited greater interest in learning to read in Chinese.

HIEBERT, ELFRIEDA H., & ADAMS, CINDY S. Fathers' and mothers' perceptions of their preschool children's emergent literacy. *Journal of Experimental Child Psychology*, August 1987, *44*, 25-37.

Examines parents' perceptions of their children's emergent literacy and the relation of those perceptions to achievement. A total of 44 family groups participated in the study. The

children, ages 3 and 4, were administered conventional reading readiness measures (letter naming, auditory discrimination), functional reading measures (context-dependent word recognition, storybook orientation, and writing), and interest measures. Parents completed a questionnaire asking them to predict how their children would perform. A multivariate ANOVA examined the effects of parent's gender, child's gender, and child's age on parents' predictions. No major differences were found between the predictions of mothers and fathers. Results showed that both parents overestimated their children's performance on four of the six dependent variables but not on the letter naming and writing measures. The accuracy of predictions did not differ significantly for gender or age of the children.

STUART-HAMILTON, IAN. The role of phonemic awareness in the reading style of beginning readers. *British Journal of Educational Psychology*, November 1986, *56*, 271-285.

Investigates how phonemic awareness influences reading style. Reading style was defined as any measure of the reader's reliance on reading subskills, especially graphemic processing. Two experiments compared 20 children possessing phonemic awareness with 20 children matched for reading and chronological age, but lacking phonemic awareness. Subjects were the entire reception classes of four infant schools in northwest England; all had been in school one to one-and-one-half terms when tested. All four schools used a reading instructional approach which included a mixture of phonics and whole word methods. In Experiment 1, the children's ability to detect changes in the graphemic structure of isolated words was assessed. All children were tested individually with the *Carver Word Recognition Test*, two phonemic awareness tests devised by the researcher, Dodd's word recognition test, and Dodd's word matching task. in Experiment 2, the children's reading performance in their current reader was examined by miscue analysis. In comparison with the non-aware group, children who had phonemic awareness were significantly more sensitive to changes in graphemic structure, made greater use of graphemic cues, and made fewer nonsense substitutions when reading.

RYAN, ELLEN BOUCHARD, & LEDGER, GEORGE W. Learning to attend to sentence structure: Links between metalinguistic development and reading. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 149-171.

Examines research studies which address young children's developing ability to focus on sentence structure per se and the role of sentence-processing skill in learning to read effectively. Three sources of data are reviewed: a) data on children's evaluations of sentence acceptability and other structure-based sentence tasks; b) training studies of metalinguistic strategies and of sentence strategies needed for reading; and c) investigations of the links between sentence-processing skill and learning to read. A model of metalinguistic development is offered which provides a framework for understanding the cognitive foundations of both reading and grammatical awareness as well as a basis for classifying the tasks used to assess grammatical awareness. The proposed model is based on separation of two orthogonal dimensions, cognitive control and analyzed linguistic knowledge. The authors contend that the process of learning to read can be divided into three metalinguistic stages: (1) analyzed knowledge of the functions of print; (2) analyzed knowledge of the features of print and the control to relate them to units of oral language; and (3) the control to coordinate forms and meanings to achieve the goal of extracting meaning from text.

ROWE, DEBORAH WELLS. Literacy learning as an intertextual process. In John E. Readence, & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 101-112.

Describes the patterns of intertextual typing observed in a preschool setting and presents theoretical hypotheses that describe the role of intertextuality in the literacy learning process. Intertextuality is defined as the ways in which the production and reception of a given text depend upon the [readers'] participants' knowledge of other texts. The setting for the research was a day care program serving three-and four-year old children of university faculty and staff. A total of 21 children participated. Data were collected in four phases over an eight-month period, including audiotapes, field notes, photographs and informal interviews with children about their literacy activities. Data were coded for indications of patterns concerning literacy learning. Results indicated that there were two general types of intertextual connections which are important in literacy learning. The first type of connection occurred when children linked their existing knowledge about literacy to the demonstrations provided by other authors. The process of mutual intertextualizing which occurred through conversation and demonstration led to the formation of shared meaning about literacy and allowed members of the same authoring community to use literacy to communicate with others. The second type of intertextual connection reflected the mediation of children's existing texts in literacy learning. Children interpreted their experiences by flexibly linking their current observations to multiple aspects of their past experiences, creating context-specific hypotheses about literacy.

BURNS, JEANNE M., & RICHGELS, DONALD J. An investigation of task requirements associated with the invented spelling of 4-year-olds with above average intelligence. *Journal of Reading Behavior*, March 1989, *21*, 1-14.

Studies whether conscious use of phonological knowledge is associated with invented spelling and whether there is a relation between invented spelling and reading. Subjects included 47 four-year-olds in a preschool gifted program. Using scores on the Invented Spelling Test as the criterion, 16 nonspellers and 16 inventive spellers were identified, all having an IQ of 116 or higher. Children were then administered 11 different tasks which examined alphabet knowledge, word segmentation, sound/letter association, and reading knowledge. Analyses of variance techniques revealed that the groups differed significantly on 7 of the 11 tasks: consonant sound/letter association, vowel sound/letter association, sound unit segmentation, contextual environmental print, isolated environmental print, word list, and sentence task. Inventive spellers were better at these tasks. Differences among the inventive speller group were noted, with 44% found to be proficient word readers. Word reading appeared to be a related but separate ability from word writing.

WORDEN, PATRICIA E.; KEE, DANIEL W.; & INGLE, MELANIE J. Parental teaching strategies with preschoolers: A comparison of mothers and fathers within different alphabet tasks. *Contemporary Educational Psychology*, April 1987, *12*, 95-109.

Examines how parents and preschoolers interact in informal alphabet-learning activities. Twenty three-year-olds and their parents (half with mothers and half with fathers) were videotaped in two 12-minute sessions reading picture books and interacting with alphabet-learning software on a personal computer. The frequency of a number of verbal and physical behaviors as a function of the independent variables of sex of parents and media were examined. Initial analyses focused on several dependent variables that measured the amount of verbal interaction in the various conditions. Second, the specific content of the conversations was assessed by examining the relative frequency of 10 kinds of verbal events. A correlational analysis evaluated the consistency of verbalizations exhibited in the two situations. Finally, various physical behaviors such as looking, pointing, page turning and key pressing was observed to determine interactions with the two media. Initial analyses revealed several main effects for tasks, with the total number of letters discussed in the book reading task more than double the number of letters discussed in the software program. In addition, the number of

letters repeated, the number of speaker-turns, and the number of initiated conversational cycles was greater when book reading. Parents talked more overall in both events, but both parents and children talked more when book reading. Preschoolers were predominantly occupied with naming things; in contrast, parents used a range of other verbal devices (comments, feedback, directives, questions). In addition, they focused upon providing and requesting identifications of objects and letters. Although there were few differences in the way fathers and mothers interacted with their preschoolers, differences were found in consistency, with mothers consistent in their verbal styles across the two tasks, while fathers were not.

MANN, VIRGINIA A.; TOBIN, PAULA; & WILSON, REBECCA. Measuring phonological awareness through the invented spellings of kindergarten children. *Merrill-Palmer Quarterly*, July 1987, *33*, 365-391.

Explores the preconventional spelling skills of kindergarten children both as a means of measuring phonological awareness and as a predictor of first grade reading ability. In Experiment 1, 29 kindergarteners were administered the *Harris Draw-A-Man* and the *Invented Spelling Test* (IST). The IST consisted of 14 dictated words that included one or more of the following properties: the presence of a letter name with the word, the inclusion of a short vowel, a nasal, a liquid, or a consonant represented with a digraph. One year later, the Woodcock Word Attack and Reading Mastery subtests were individually administered. The Pearson coefficients between IST and both subtests of the Woodcock were statistically significant. Experiment 2 was run to clarify the basis of differences in children's ability to give phonologically accurate spellings. Twenty-two kindergarten children were administered the IST, the Draw-A-Man test, as well as a speech processing test in the form of a relative clause comprehension test, a visual classification test, and a speech classification test. The results revealed a significant relation between the phonological accuracy of kindergarten spellings and the relative clause comprehension measure. No relation was found between the ability to reflect on the internal structure of word stimuli and phonological awareness or invented spelling ability.

BURNS, JEANNE M., & COLLINS, MARTHA D. Parents' perceptions of factors affecting the reading development of intellectually superior accelerated readers and intellectually superior nonreaders. *Reading Research and Instruction*, Summer 1987, *26*, 239-346.

Examines environmental differences in various written language experiences provided intellectually superior nonreaders and intellectually superior readers. Subjects were 30 four- and five-year-old children who attained an IQ of 120 or higher on the *Stanford Binet Intelligence Test*; half were designated as accelerated readers and half as nonreaders based on the scores on the Letter-Word Identification subtest of the WJPEB. Ten of the mothers of accelerated readers reported using a commercial or self-developed program to teach their children to read; only two of the nonreaders' mothers reported using formal programs to teach their children to read. Parents responded to a 269-item questionnaire including information about four constructs in the home environment related to print concepts and literary experiences: Concepts About Print, Print in the Environment, Invented Spelling, and Story Recall. MANOVA results revealed statistically significant differences between the two groups. Univariate tests were statistically significant for Story Recall and Concepts About Print. Mothers of accelerated readers provided a greater number of opportunities to discuss, recall, and interact with information from stories or story-related materials.

IV-21 Studies on the reading process

WHITNEY, PAUL. Psychological theories of elaborative inferences: Implications for schema-theoretic views of comprehension. *Reading Research Quarterly*, Summer 1987, *22*, 299-310.

Reviews critically the research evidence concerning the types of elaborative inferences readers make and examines the implications such research has for the constructivist definition of comprehension. First, research supporting the notion that comprehension is a highly elaborative process was reviewed. Second, a prototypical model of the inference process was proposed based on the explanations of how inferences are made. Third, recent evidence qualifying the original studies was reviewed. Fourth, suggestions are made as to the kinds of revisions necessary to move toward a reformulated model of inferential processing.

GUTHRIE, JOHN T. Locating information in documents: Examination of a cognitive model. *Reading Research Quarterly*, Spring 1988, *23*, 178-199.

Reports two studies that examine the validity of a cognitive processing model for locating information in documents. The proposed model consists of five components: (1) goal formation; (2) category selection; (3) extraction of information; (4) integration; and (5) recycling. In Study 1, an airline schedule reading task was presented on a computer. A sample of college students were asked to respond to three questions that had to be answered by inspecting three sections of the document. An interaction record of each participant was tracked by the computer as subjects worked through the task. The interaction record consisted of menu selections, information recorded on the notepad, and time used to solve each problem. These served as measures of components of the cognitive model. A series of analyses were conducted to analyze performance and learning. Overall, the model accounted for at least 68% of the variance in performance. Category selection and information extraction contributed significantly to performance, whereas integration and recycling did not. In Study 2, a transfer criterion was used in which the airline schedule task was presented in counterbalanced order with a pay stub task. Both tasks contained three features but differed in the number of categories and the amount of information within each category. Interaction was tracked in the same manner used in Study 1. Performance on the second task was facilitated by the first task for both documents. The model components of category selection and integration of information appeared to mediate the transfer.

ELLIS, ANDREW W. *Reading, Writing, and Dyslexia: A Cognitive Analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1984.

Utilizes research and other writings in building models of how skilled readers identify, comprehend, and pronounce printed words, sentences, and longer texts and then views various acquired dyslexias, dysgraphias, and developmental dyslexias.

ABRAMOVICI, SIMON. Comments on the notion of importance. *Reading*, April 1988, *22*, 70-75.

Cites various recent research findings in discussing and commenting upon the factors affecting judgments of the relative importance of different parts of a text.

DOWNING, JOHN: Task awareness in the development of reading skill. In John Downing & Renate Valtin (Eds.) *Language Awareness and Learning to Read*. New York: Springer-Verlag, 1984, 27-55.

Analyzes the development of reading behavior in terms of established psychological concepts. Evidence that reading is a behavioral skill as defined by the taxonomy of scientific psychology is reviewed. The evidence is described in terms of the development of reading skill, task awareness, concepts of the functions of literacy, concepts of features of language, and the relation between task awareness and skill integration. The importance of task awareness in the development of reading skill is emphasized. Task awareness is defined as involving metacognitive abilities such as metalinguistic knowledge and understanding the purposes of literacy.

PATEL, P.G., & SOPER, HENRY V. Acquisition of reading and spelling in a syllabo-alphabetic writing system. *Language and Speech*, January-March 1987, *30*, 69-81.

Explores the performance on selected reading and spelling tasks of Gujarati-speaking children in India who learned to read and write using a syllabo-alphabetic system. Of interest was whether a writing system combining alphabetic and syllabic principles encourages a visual-orthographic mental storage for spelling or the use of grapheme-sound correspondences. One hundred twenty Gujarti-speaking children in grades 2, 3, and 4 were tested in oral word reading, word comprehension, paragraph comprehension, two levels of orthographic parsing (syllabographic and phonemegraphic), lexigraphic parsing, and spelling (regular, analogical, and nonsense words). The words and paragraphs selected for testing were taken from textbooks in grades 1-4. A level of mastery was found even at grade two in all areas of written language, and by grade four, improvement was noted in most areas. The improvement was generally uneven, and, although a similar developmental pattern was noted for several tasks, the researchers suggested that many relatively independent abilities may, coincidentally, follow the same uneven developmental course. Substantial evidence was found for a shift from a grapheme-sound system to a lexical system for regular spelling from grade two to grade four. The researchers note that a syllabo-alphabetic system follows the models of reading acquisition constructed for alphabetic systems.

REUTZEL, D. RAY; HOLLINGSWORTH, PAUL M.; & DAINES, DELVA. The effect of a direct instruction paradigm using dictated texts on beginning readers' main idea comprehension. *Reading Research and Instruction*, Summer 1988, *27*, 25-46.

Asks whether first graders can be taught to select main ideas across a variety of tasks. Involved were 139 pupils from three elementary schools divided into two control classrooms (n = 52), two basal instruction classrooms (n = 41), and two direct instruction experimental classrooms (n = 46). The six teachers were all given appropriate inservice work, including instruction in the language experience approach. Basal teachers were provided with materials for 22 basal main idea comprehension lessons, and the direct instruction teachers with 22 direct instruction main idea comprehension frameworks. Direct instruction lessons for children included the following elements: teacher information, introduction, input, modeling, teacher guided practice, and independent practice. Instruction occurred over a four-and-one-half week period. Three researcher-developed instruments were used to assess main ideas in word lists, sentences, and paragraphs. Experimental pupils outperformed other groups on all measures. The treatments did not differentially affect pupils of varying reading ability levels. No significant interactions were found among the three treatment conditions and the three levels of reading ability for the various posttests.

STANOVICH, KEITH E.; NATHAN, RUTH G.; WEST, RICHARD F.; & VALA-ROSSI, MARILYN. Children's word recognition in context: Spreading activation, expectancy, and modularity. *Child Development*, December 1985, *56*, 1418-1428.

Investigates the assumption that context effects on children's word recognition are caused by a spreading-activation process and an expectancy-based attentional process operat-

ing simultaneously. Subjects were 24 third-grade children, 24 fifth-grade children, and 24 university undergraduates. Subjects were presented with target nouns in incomplete sentences on a CRT. Nouns were semantically related to words in the sentence and presented in congruous or incongruous targets. A neutral context was also presented. Each subject completed 12 practice trials and 96 experimental trials, 24 congruous targets, 24 incongruous targets, and 48 filler trials. A short recognition memory test was administered immediately after the last trial. Third-grade and fifth-grade children identified a target most rapidly in congruous sentences but as rapidly in incongruous incomplete sentences as in neutral sentences. Results seem to support the two-process interactive-compensatory model of reading rather than a hypothesis-testing model.

PHILLIPS, LINDA M. Young readers' inference strategies in reading comprehension. *Cognition and Instruction*, 1988, *5*(3), 193-222.

Analyzes the inference strategies used by sixth-grade readers and examines how these strategies differ from those used by skilled adult readers. The sample was comprised of 80 pupils forming two reading proficiency levels determined by performance on the *Canadian Test of Basic Skills*. Forty high-proficiency readers, scoring above the 85th percentile, and 40 low-proficiency readers, scoring below the 50th percentile, were selected. Equal numbers of high- and low-proficiency readers were randomly assigned to read three passages about topics either familiar or unfamiliar to them. Subjects were asked to read aloud and to report verbally what they were thinking as they read. Sessions were audiotaped and transcribed verbatim. The readers' protocols were divided into idea units and each unit was classified under an appropriate inference strategy. This resulted in the identification of 10 inference strategies by three independent raters who demonstrated interrater correspondences ranging from .87 to .93. Qualitative analyses showed similarities and differences between the pupils' inference strategies and those used by adults. Quantitative analyses showed that an interaction between proficiency and text familiarity determined frequency of strategy use. The strategies most frequently associated with high-proficiency and high-background knowledge readers were shifting focus when an impasse was reached, confirming prior interpretation, and empathizing with story content. The strategies most frequently associated with low-proficiency and low-background knowledge readers were assuming default interpretations and withholding or reiterating information.

FORREST-PRESSLEY, D.L., & GILLIES, LAURIE A. Children's flexible use of strategies during reading. In Michael Pressley & Joel R. Levin (Eds.) *Cognitive Strategy Research: Educational Application*. New York: Springer-Verlag, 1983, 133-156.

Reviews research on metacognition and the efficient use of reading strategies by children. Research in the areas of reading strategy use, knowledge of reading situations and reading strategies, and comprehension monitoring is examined as well as the connections among these areas. It is argued that efficient use of reading strategies cannot be achieved without the metacognitive components of knowledge and monitoring and that metacognition directs the flexible use of various strategies. Also included are overviews of training procedures and instructional practices.

LEFEVRE, JO-ANNE. Reading skill as a source of individual differences in the processing of instructional texts. *Journal of Educational Psychology*, September 1988, *80*, 312-314.

Utilizes a conflict situation to determine whether skilled and less skilled readers processed instructional text. Data from 114 introductory psychology students were collected; 75 participated in crucial conflict conditions, 39 in nonconflict conditions. Reading skill was determined by scores on the comprehension subtest of the NDRT. A series-classification test

and a questionnaire were used to assess processing of an instructional text. The instructional text and an example either described the same procedure for answering test items (no conflict) or described different and mutually exclusive procedures (conflict). Reading skill was a significant predictor of noticing the conflict between the instructional text and the example. Subjects who noticed the conflict were more likely to use the instructional text. Overall, reading skill, noticing the conflict, and the information given accounted for 33% of the variance in the information use factor.

MARTIN, SARAH H. A description of cognitive processes during reading and writing. *Reading Psychology*, 1988, *9*(1), 1-15.

Compares the think-aloud protocols of one above average reader/writer and one below average reader/writer collected during reading and writing activities. Two high school subjects were selected on the basis of teacher recommendations and ACT scores. Subjects completed an abstract task and a concrete task for both reading and writing over a five-day period. The audio-tapes of the sessions were transcribed and analyzed to separate and describe behaviors used by the subjects. Differences in processing during both comprehending and composing were found between the two subjects. The above average subject reported more meaning-making behaviors and took more time to complete the tasks. The below average student was eager to complete the tasks and showed little introspection and reflection.

CHASTAIN, GARVIN. Visually-presented letter strings typically are encoded phonologically: Some converging evidence. *Journal of General Psychology*, April 1987, *114*, 147-156.

Conducts a series of three experiments attempting to find support for a phonological route to the mental lexicon used when written material is present. Subjects in all three experiments were students in a general psychology course and numbered 14 to 16. Stimuli in Experiment 1 were words, pseudohomophones, and nonwords, each containing the letter P or R in either the initial or terminal position. After brief exposure of each stimulus, subjects were to report the appearance of P or R. Discrimination accuracy was equivalent for words and pseudohomonyms; performance on pseudohomonyms was significantly better than on nonwords. In Experiment 2, results revealed more accurate target discrimination in homophones than nonhomophones. For Experiment 3, the phonological complexity of strings was varied and length was held constant. Target discrimination was found to be more accurate with less complex strings. The author interpreted results of the three experiments as providing evidence that entries in the mental lexicon can be accessed on a phonological basis and are not accessed on that basis only occasionally as other researchers have argued.

HAYES, EDMUND B. Encoding strategies used by native and non-native readers of Chinese Mandarin. *Modern Language Journal*, Summer 1988, *72*, 188-195.

Refers to two experiments investigating the amount of phonological, visual, and semantic processing strategies used by native and non-native readers of Chinese Mandarin. Subjects in the two experiments were 17 native Chinese from Taiwan and 17 non-native, proficient American readers of Chinese Mandarin. In Experiment 1, subjects were shown 15 different slides with six random, single characters on each slide. After viewing a slide for four seconds, subjects were to circle in a response booklet the characters they had seen on the slide. Response choices included phonological, graphic, and semantic distractors. Experiment 2 was a character recognition test in which subjects were shown a complete Chinese sentence on a screen and then asked whether the statement was true or false. A graphic, phonological, or semantic distractor was embedded in some of the sentences, thereby causing it to be false. Data revealed that phonological encoding of material was a primary strategy employed by native readers at the word/character level of processing. No such clear-cut result

was apparent for non-native readers who appeared to use a mixed strategy of phonological and graphic encoding at the character level. At the sentence level, non-native readers made significantly more graphic errors than native readers, and significantly more graphic errors than either phonological or semantic. For native readers at the sentence level the predominant strategy appeared to be a combination of graphic and semantic strategies.

GREEN, DAVID; MEARA, PAUL; & COURT, STEPHEN. Are numbers logographs? *Journal of Research in Reading*, February 1989, *12*, 49-58.

Compares performance of 10 native Chinese adults who could read and speak English in processing three types of materials: Chinese numerals, Western numerals, and non-alphanumeric shapes. Subjects viewed a target on a screen for one second, and then were to determine if the target was present in a string of five symbols. Reaction times to response were determined. It was found that subjects searched the two arrays of numerals differently.

TIERNEY, ROBERT J.; SOTER, ANNA; O'FLAHAVAN, JOHN F.; & MCGINLEY, WILLIAM. The effects of reading and writing upon thinking critically. *Reading Research Quarterly*, Spring 1989, *24*, 134-173.

Examines the combined effects of reading and writing on critical thinking. A sample of 137 undergraduate students was randomly assigned to one of two topics and one of 12 treatment conditions. The treatment conditions consisted of various combinations of (1) an introductory activity (writing a letter to the editor, knowledge activation task, or no activity); (2) a reading activity (reading or not reading an editorial passage about the topic); and (3) a question activity (answering or not answering questions about the topic). Following the treatments, all subjects wrote a letter to the editor and participated in a debriefing. The subjects' written products were analyzed quantitatively (word count, T-units, revisions) and qualitatively (holistic/analytic scoring). Transcripts of the debriefings were used to judge changes in subjects' thinking. Significant differences were found among treatment groups. Reading and writing used independently produced significant effects; however, their combined use was superior. An analysis of the debriefing responses yielded categories and subcategories of thinking that students engaged in. Significant differences were found among treatments in the type of thinking students used. For example, students who wrote before reading were thinking more evaluatively than those who did not write. Evidence also suggested that knowledge activation and questioning conditions may actually inhibit performance.

CARRITHERS, CAROLINE. Syntactic complexity does not necessarily make sentences harder to understand. *Journal of Psycholinguistic Research*, January 1989, *18*, 75-88.

Conducts a study to determine if differences in readers' on-line processing of various sentence types, including actives and passives, are related to linguistic complexity of sentences. Subjects were 56 adult male university students, all reporting above-average verbal scores on either the *Scholastic Achievement Test* or the *Graduate Record Examination*. Subjects read material appearing one word at a time on a CRT screen, pressing a bar to see the next word in a sentence; the time each word remained on screen was recorded. Subjects read 96 word-by-word sentences, 28 of which were experimental. Experimental sentences consisted of single-clause sentences containing a complex definite subject and a complex definite object; 21 of the experimental sentences contained syntactically unmarked verbs (slapped, questioned, noticed), while the other seven contained syntactically marked, ergative psych verbs (amazed, alarmed, confused). Experimental sentences appeared in four syntactic constructions: active, passive, subject-first clefts, and object-first clefts. Passive clauses and subject clefts were read significantly faster than active clauses and object clefts. Real differences in rates appeared only after the verb. Sentences in which the deep structure direct object

immediately precedes the word were easier to process. The data were interpreted as supporting a dual, parallel processing model of sentence comprehension in which lexical information and morphological/relational information are processed independently.

FEATHERS, KAREN M., & WHITE, JANE H. Learning to learn: Case studies of the process. *Reading Research and Instruction*, Summer 1987, *26*, 264-274.

Analyzes 290 journal entries of six freshmen enrolled in university developmental reading classes to study their metacognitive awareness of their own reading and learning. Students, ranging in age from 18 to 40, were placed in classes on the basis of a composite of low college entrance test scores and high school GPA. All were concurrently enrolled in developmental writing and math, as well as two regular freshman courses. Journal entries were written four times a week. Instructors wrote written responses to student entries. A single classification system of 11 categories grew from the data. Categories reflected strategies used as well as insights into reading and learning processes. Responses focused on the nature of the tasks, the application of strategies to other subjects, and observations on the process of learning. Actual numbers of responses as well as numbers of metacognitive responses increased over the semester.

KAUFMAN, NANCY J., & RANDLETT, ALICE L. The use of cognitive and metacognitive strategies of good and poor readers at the college level. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 50-53.

Compares the metacognitive and cognitive strategies of disabled and able college readers. Subjects ($n = 36$) were randomly selected from those who scored above the 80th percentile and below the 20th percentile on the NDRT. An examiner observed students individually as they read five short passages and answered comprehension questions. Subjects were interviewed about sources of confusion and then completed a forced-choice questionnaire regarding reading and test-taking strategies. High comprehenders gave more metacognitive responses related to reducing confusion than did low comprehenders ($p < .05$). They also differed in the number of responses reported as involving nonobservable mental operations ($p < .05$).

FAGAN, WILLIAM T. A comparison of the reading processes of adult illiterates and four groups of school age readers. *Alberta Journal of Educational Research*, June 1987, *33*, 123-136.

Describes and compares the reading processing behaviors of adult illiterates and low and normal achieving readers at grades 2 and 4. The 20 adults in the sample ranged between primer and grade 3.5 reading level on the *Standard Reading Inventory* and ranged in age from 21 to 60. Mean reading scores at grades 2 and 4 for low achievers were 1.5 and 2.8, respectively, and 2.7 and 5.7, respectively, for normal achievers as determined by the GMRT. Subjects read orally a series of narrative and expository passages at their instructional level and were asked for recalls. Data were categorized according to different cognitive processes and grouped into three clusters: code-dominant, meaning dominant, and control dominant. A fourth cluster including effective reading behaviors was also identified. Adult illiterates were most like grade two readers in terms of their processing behaviors, but were more effective than second graders in their reading, especially in recall of key units.

FAGAN, WILLIAM T. Reading competencies: The performance of low-literate adults. *Reading-Canada-Lecture*, Spring 1989, *7*, 16-27.

Assesses and compares school or academic literacy competency to functional literacy competency for two groups of low literate adults. Subjects consisted of 26 prison inmates and

26 noninstitutionalized adults, all reading below a ninth-grade level. Participants were asked to recognize the item and then to access specific information on 24 ordinary reading tasks; academic performance was assessed by the *Individual Evaluation Procedures*. In task recognition, there was no statistically significant difference between groups. Mainstream society adults significantly outperformed prisoners in accessing specific information; 58% of mainstream adults were able to independently complete between 12 and 15 of the tasks, while only 23% of prisoners could do so. Correlation coefficients between scores on the functional reading task and the academic reading task were .62 for mainstream adults and .40 for prisoners.

KIRBY, JOHN R., & GORDON, CHRISTOPHER J. Text segmenting and comprehension: Effects of reading and information processing abilities. *British Journal of Educational Psychology*. November 1988, *58*, 287-300.

Tests the hypothesis that segmenting text into appropriate syntactic units will facilitate the comprehension of readers who have adequate word recognition but poor comprehension skills. Australian primary school children from grades 3 to 6 (n = 352) served as subjects. Measures administered included: the Primary Reading Survey Test of Word Knowledge (ACER) for vocabulary; Raven's *Coloured Progressive Matrices* and *Figure Copying* for simultaneous processing; and *Sentence Repetition* and *Digit Span Forward* for successive processing. Reading comprehension was assessed in conjunction with performance in the altered text condition. Two reading passages were selected from the ACER at each of grades 3, 4, 5, and 6 reading levels. Four different versions of each passage were constructed: normal test; single words (one word per line in a vertical column down the page); inappropriate, in which the passages were typed so that the words were grouped in chunks which did not correspond to appropriate syntactic units; and appropriate, in which typed chunks corresponded to appropriate syntactic units. In both of the latter versions, chunks within a sentence were progressively indented across the page, new sentences beginning again on the left margin. Pupils were tested in three sessions, two in groups and one individually. All children received one passage in normal text condition and one in one of the three altered text conditions. A series of ANOVAs were conducted to analyze data with grade, vocabulary ability, comprehension ability, simultaneous and successive processing abilities, and text condition serving as independent variables. Poor comprehenders, regardless of vocabulary skill, benefited from text segmenting. Findings confirmed that simultaneous processing is involved in the forming of syntactic units. The importance of syntactic analysis in reading was underscored and findings indicated this to be a potential processing bottleneck for poor readers.

HYÖNÄ, JUKKA; NIEMI, PEKKA; & UNDERWOOD, GEOFFREY. Reading long words embedded in sentences: Informativeness of word halves affects eye movements. *Journal of Experimental Psychology: Human perception and Performance*. February 1989, *15*, 142-152.

Presents three experiments exploring whether the informativeness of a specific region within a word can influence eye movements during reading. Subjects in all three were Finnish-speaking adults (n = 12, 12, 15). In Experiment 1, 40 Finnish words were selected, with word length between 10 and 13 characters; half contained identifying information toward the beginning of the word and half toward the end of the word. Eye fixations were collected as subjects read the words on a screen. Words were read with shorter summed initial fixation time when the reading was started from the informative zone. In the other experiments, words were presented in sentences that were to be comprehended. More attention was given to the informative endings of words than to redundant endings. The latter also were skipped more frequently. The duration of the first fixation was not affected by information distribution within the word, but the second duration fixation was. Results are interpreted as lending support to the hypothesis of immediate lexical control over fixation behavior and to the notion of a convenient viewing position.

UNDERWOOD, GEOFFREY; HYÖNÄ, JUKKA; & NIEMI, PEKKA. Scanning patterns on individual words during the comprehension of sentences. In J.K. O'Regan & A. Lévy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 467-477.

Designs two experiments studying the possibility that the location of information within a word can determine fixation duration as well as attract an eye fixation. Each study used 12 Finnish-speaking adults as subjects. In Experiment 1, 40 Finnish words, each between 10 and 13 characters in length, were used. Twenty of the words had identifying information at the end and 20 had identifying information at the beginning; i.e., the word could be identified from the last six letters but not from the first six or vice versa. Words were displayed on a screen asymmetrically around a point of fixation, so that subjects were presented initially with either the informative or non-informative zone. Fixations upon the informative zone were longer only when those zones appeared at the beginnings of words; saccades away from the ends of words were longer than those away from the beginnings. In Experiment 2, the same words were presented in sentences. Locations of fixations within words tended to be upon the information zones.

DEE-LUCAS, DIANA, & LARKIN, JILL H. Attentional strategies for studying scientific texts. *Memory and Cognition*, September 1988, *16*, 469-479.

Focuses on how the knowledge structure of novices influences attention and learning from unfamiliar scientific texts. Reading times for different types of content and the amount of information recalled from different category types were examined to see if differential attention is given to different category types of material and if level of recall varies with the judged importance of the category. In particular, the study focused on attentional and recall differences for definitions and facts. Two groups of subjects were involved: 18 expert subjects who had completed at least one year of graduate study in physics, and 18 novice subjects who had completed two semesters of coursework in physics at the undergraduate level. Subjects were presented with two passages, 44 and 47 sentences in length, on the topics of (1) work and energy and (2) fluid statics. Each passage contained 18 target sentences, 9 definitions and 9 facts. Passages were presented on a video terminal one sentence at a time. Subjects were asked to read passages three times, to rate their familiarity with the content on a five-point scale, and then to complete a multiple-choice test. At a second sessions, a fill-in-the-blank test was given for a practice passage and a free recall test for a target passage. Target sentences were then rated for familiarity and comprehensibility. Findings suggested that novices' importance rules function as part of novices' control schema during reading, influencing their attentional processes and the resulting representation formed for the text. The number of passage readings and the passage topic had a greater influence on the reading times of experts, but both groups adjusted processing time according to the hierarchical level of the passage content. There were qualitative differences in the attentional patterns and text recall of the two groups.

IV-22 Comprehension research

OLSON, GARY M.; DUFFY, SUSAN A.; & MACK, ROBERT L. Question-asking as a component of text comprehension. In Arthur C. Graesser & John B. Black (Eds.) *The Psychology of Questions*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985, 219-226.

Explores the relation between question-asking behavior and reading comprehension. Subjects were asked to read four simple stories. Four types of data were collected. Nine subjects read the stories sentence-by-sentence and were to ask a question after each sentence.

Twenty subjects were timed as they read the stories silently; later they were asked to recall the stories. A third group of 17 subjects judged the relative importance of various parts of the stories. An analysis of the data revealed that question asking was related to reading time; i.e., sentences that generated a lot of questions took longer to read. Multiple regression analysis confirmed that number of questions raised and sentence length were significant predictors of reading time. The type of questions raised (general ones asked by many subjects versus idiosyncratic ones asked by single subjects) did not make a difference. No relation was found between the number of questions asked and recall; however, rated importance and serial position were significant predictors of recall.

MARZOLA, EILEEN S. Interrogating the text: Questioning strategies designed to improve reading comprehension. *Journal of Reading, Writing, and Learning Disabilities International*, 1988/1989, *4*, 243-258.

Summarizes research indicating that poor readers can be taught comprehension strategies used by good readers. Stressed are various self monitoring and questioning strategies.

GAUTHIER, LANE ROY. Differences among fifth graders' comprehension category responses with respect to cognitive demand. *Reading Improvement*, Fall 1987, *24*, 213-220.

Examines the cognitive demands among the three traditional levels of comprehension questioning (literal, inferential, and critical). Twenty-five fifth graders were individually administered the reading comprehension section of the CAT. In a specially prepared booklet, each passage was presented, followed by all the literal questions, all inferential questions, and all critical questions. Children were not allowed to refer back to the passage in answering the questions. An analysis of the data found no significant differences in performance among the three types of comprehension. This finding applied to males and females when data were analyzed separately by gender.

O'SHEA, LAWRENCE J.; SINDELAR, PAUL T.; & O'SHEA, DOROTHY J. The effects of repeated readings and attentional cues on the reading fluency and comprehension of learning disabled readers. *Learning Disabilities Research*, Summer 1987, *2*, 103-109.

Ascertains the effects of repeated readings and attentional cues on the reading fluency and comprehension of 32 LD children, ages 11.3 to 13.6. Total reading scores on various standardized reading achievement tests ranged from grade equivalent 1.2 to 6.0. Words read correctly per minute (WPM) as assessed on two fourth-grade level passages ranged from 34 to 156. Children attended DL resource room programs in their respective schools. Pupils were randomly assigned to one of two experimental conditions: a cue to read quickly and accurately or a cue to read for comprehension. In both conditions, children read three passages of equivalent difficulty one, three, and seven times. Data on reading rate and comprehension retellings were collected for each passage. Pupils who were cued to read for comprehension retold a greater mean proportion of propositions but read no slower than did the other group. Under both conditions pupils read at progressively higher rates with increased numbers of rereadings. Retelling scores increased in both conditions when repeated readings increased from one to three. However, differences in percentage of story propositions recalled did not differ significantly between three and seven readings.

KAPINUS, BARBARA A.; GAMBRELL, LINDA B.; & KOSKINEN, PATRICIA S. Effects of practice in retelling upon the reading comprehension of proficient and less proficient readers. In John E. Readence & R. Scott Baldwin (Eds.) *Research in Literacy: Merging Perspectives*. Thirty-Sixth Yearbook of the National Reading Conference, 1987, 135-141.

Investigates how the retelling performance of the novice compares with that of the expert reteller, and addresses whether practice in retelling enhances comprehension for both proficient and less proficient readers. The subjects were 36 fourth-grade pupils from three elementary schools in Maryland (20 proficient and 16 less proficient readers). Proficiency in reading was judged by the CAT. Eight narrative stories were selected on the basis of clear presence of basic elements of story structure. Subjects were randomly assigned to one of four story conditions, with story level task matched to reading level. At the conclusions of sessions one and four, subjects responded to eight comprehension questions about the story they had read and to a four-item questionnaire which probed their attitudes toward retelling and their strategy awareness. A repeated measures analysis was employed to test for significant differences between sessions one and four with respect to the retelling and cued recall tasks. The proficient readers performed better on the fourth session on both tasks. The less proficient readers also performed better in the fourth session on the cued recall task. There were no statistically significant differences for the less proficient readers' free recall of story structure elements after practice. The majority of pupils indicated a positive response to the activity.

HIDI, SUZANNE, & BAIRD, WILLIAM. Strategies for increasing text-based interest and students' recall of expository texts. *Reading Research Quarterly*, Fall 1988, *23*, 465-483.

Compares the effects of three interest-evoking strategies on students' interests in and recall of expository texts. Three versions of a passage on famous inventors in history were created. One version included the attributes of character identification, novelty, life theme, and activity level. The second version used an insertion strategy whereby information was inserted that elaborated the central ideas. The third version induced a need on the reader's part to resolve an incomplete understanding. A sample of grade four and grade six pupils was randomly assigned to read one of the three versions of the text. Comprehension was assessed using immediate and delayed recalls, and a forced-choice task was used to measure interest. A significant main effect for grade was found with sixth graders outperforming fourth graders. No significant difference in recall was found among the three texts for either immediate or delayed recall. However, when results were compared to those of earlier studies, significantly less forgetting was found for the experimental passages. The results of the interest measure revealed that fourth graders had no clear preference for any of the three versions, whereas sixth graders found the elaborated and resolution versions more interesting. A content analysis examined the recall pattern associated with each interest-producing strategy.

RADUEGE, TRACY A., & SCHWANTES, FREDERICK M. Effects of rapid word recognition training on sentence context effects in children. *Journal of Reading Behavior*, 1987, *19*(4), 395-414.

Reports two studies that assess the effects of two methods of word recognition practice on developmental differences in context effects. In Experiment 1, two methods of training in word recognition (isolation vs. context) and a no-practice condition were used with a sample of second- and third-grade subjects. Vocalization latencies for reading words embedded within a sentence context were used to assess training effects. Results indicated that both training methods were equally effective in increasing speed of word recognition. In Experiment 2, a sample of third- and sixth-grade subjects received training using the isolation method. The context condition used for testing was manipulated to include congruous, incongruous, or neutral context. Significant main effects were found for grade (sixth graders outperformed third graders); for practice (shorter latencies for practiced vs. unpracticed words); and context (shorter latencies for the congruous context condition). A significant two-way interaction (practice × context condition) and a significant three-way interaction (grade × practice × context condition) were found, suggesting that the practice effect on context var-

ied as a function of grade level. Contextual facilitation was reduced for those words practiced for third graders but not for sixth graders.

MOORE, PHILLIP J., & KIRBY, JOHN R. Comprehension training and reading performance. *Reading*, July 1988, *22*, 126-136.

Describes the effects of two comprehension training programs on the reading performance and metacognitive knowledge of 111 third-and fifth-grade Australian children grouped into average and below average ability groups and then randomly assigned to Internal Processes, Text Structure, or Control groups. Control groups received their regular basal reader program. Internal Processes groups received 10 hours of inferencing training and 10 hours of imagery training. Text Structure groups received 10 hours of instruction in cloze procedures and 10 hours of instruction about the structure and cohesion of texts. Fifth graders performed better than third graders and above average ability children performed better than below average ability children. On standardized tests, there were no differences among groups. On a series of tests designed for the study, the Test Structure group performed better on a story grammar task. Both groups performed better than the control group on a written recall. In metacognitive interviews, children reported using imagery and knowledge of text structures while reading, but performance suggested they didn't utilize those structures on the test tasks.

SCHUNK, DALE H., & RICE, JO MARY. Enhancing comprehension skill and self-efficacy with strategy value information. *Journal of Reading Behavior*, 1987, *19*(3), 285-302.

Reports two studies that investigate the effects of supplying strategy value information on the self-efficacy and comprehension performance of remedial readers. In Experiment 1, 20 fourth-grade and 20 fifth-grade remedial readers were randomly assigned to four treatment conditions: specific strategy value information, general strategy value information, and no strategy value information. A total of 15 thirty-five minute instructional sessions were conducted. Pre- and post-measures consisted of a self-efficacy test in which children reported their perceived capabilities for answering main idea comprehension questions, and a multiple-choice comprehension skills test. An analysis of the results showed that the combined treatment produced significantly higher self-efficacy and comprehension performance. No significant differences were found among the other three treatments. Experiment 2 focused on strategy effectiveness feedback, or verbal feedback that linked improved performance with strategy usage. Using many of the same procedures and materials of the first study, 15 fourth-grade and 15 fifth-grade remedial readers were assigned to three treatment conditions: specific strategy value, strategy effectiveness feedback, and combined strategy value plus effectiveness feedback. As in Experiment 1, a significant main effect for treatment was found. The combined treatment produced significantly better self-efficacy and comprehension scores. No significant differences were found between the other two treatments.

ANNIS, LINDA FERRILL. Student-generated paragraph summaries and the information-processing theory of prose learning. *Journal of Experimental Education*, Fall 1985, *54*, 4-10.

Investigates the relation between high or low reading ability and three study techniques on six levels of cognitive learning from text material. Subjects were 84 college students enrolled in an undergraduate educational psychology class. A raw score of 17 or above on the NDRT was used as the basis for classifying students as high ability readers. Subjects were assigned randomly to receive a 1,525-word article with instructions for reading only, taking notes on the material in their usual manner, or generating summaries of each paragraph. All participants had 30 minutes to learn the material. One week later, a combination

multiple-choice and essay test was given containing items at each of the six levels of Bloom's taxonomy. No significant effect for treatment condition was found at the two lower levels of knowledge and comprehension. Subjects who wrote summaries scored higher than the other two groups at the application and analysis levels. Students who read or took notes scored significantly higher than the paragraph summary group at the synthesis and evaluation levels.

SEARLS, EVELYN F., & NEVILLE, DONALD D. An exploratory review of sentence-combining research related to reading. *Journal of Research and Development in Education*, Spring 1988, *21*(3), 1-15.

Seeks to establish trends in the research literature on the effect of sentence-combining training on measures of reading comprehension. A total of 34 pertinent research studies were identified spanning grades 1-12. There was great variation among the studies in how the sentence-combining training was delivered. Standardized norm-referenced reading tests and informal cloze tests most often served as dependent measures. An analysis of the studies' findings revealed that sentence-combining training had a significantly greater effect at the elementary levels, and a significantly greater effect on cloze tests. Training was more effective if it was either short (1-2 months) or long (5-9 months) in duration. No significant difference was found between massed versus distributed practice. Training outside the regular classroom appeared to be more effective than training within the classroom.

LYNCH, DOUGLAS J. Reading comprehension under listening, silent, and round robin reading conditions as a function of text difficulty. *Reading Improvement*, Summer 1988, *25*, 98-104.

Investigates comprehension under listening, silent reading, and round robin reading conditions. A sample of seventy-nine fifth graders was randomly assigned to three treatment groups. Each student completed a comprehension task under all three reading conditions. In addition, passage difficulty (easy, moderate, and difficult) was manipulated in a counterbalanced fashion for each reading condition. The Sentence Verification Technique was used as the measure of comprehension. The results of an ANOVA for repeated measures showed a significant decline in comprehension from listening to silent reading to round robin reading. A significant difference was also found for passage difficulty with performance declining from easy to moderate to difficult text. A significant interaction between reading condition and text difficulty indicated a greater difference between listening and round robin reading with easy passages compared to moderate or difficult passages.

KARDASH, CAROL ANNE M.; ROYER, JAMES M.; & GREENE, BARBARA A. Effects of schemata on both encoding and retrieval of information from prose. *Journal of Educational Psychology*, September 1988, *80*, 324-329.

Tests whether an activated schema can influence both the storage and retrieval of prose information. Subjects in the two experiments reported were 61 and 66 undergraduates who either read (Experiment 1) or listened to (Experiment 2) an experimental story. Some subjects read or listened to the story with a perspective at the time of encoding, others received the perspective instructions at the time of testing, and a third group served as controls and were given no perspective. Half of the subjects were tested using free recall, half with a sentence verification task. Results of both experiments supported the conclusion that schema activation was influential in recalling information but not on encoding of information.

STAHL, STEVEN A.; JACOBSON, MICHAEL G.; DAVIS, CHARLOTTE E.; & DAVIS, ROBIN L. Prior knowledge and difficult vocabulary in the comprehension of unfamiliar text. *Reading Research Quarterly*, Winter 1989, *24*, 27-43.

Reports three studies investigating the interactive effects of prior knowledge and vocabulary difficulty on sixth grade pupils' recall of social studies material. Subjects numbered

90, 92, and 99, respectively, in the three studies and were all in intact classes. In all three studies, pupils were pretaught either relevant or irrelevant information about the same topic. Children then read a passage from a social studies textbook, either in the original or with difficult synonyms substituted for one out of six content words. In Study 1, two classrooms each were randomly assigned to the difficult and easy versions. One class in each version was given the relevant preteaching and one class, the irrelevant preteaching. A free recall, a sentence verification, and a multiple-choice test were used to assess comprehension. Both vocabulary difficulty and preteaching were found to affect recall, but the two factors did not interact. Pupils who had the difficult vocabulary recalled more information out of order; preteaching seemed to have an independent effect on pupils' selection of the most important text to recall. In a cloze test administered in Study 2, vocabulary difficulty was found to affect the exact replacement of function words but not content words. In the last study, vocabulary difficulty, but not preteaching, affected children's ability to recognize the order of events. Results of the three studies suggested that vocabulary difficulty and prior knowledge affect different aspects of comprehension.

ANSTEY, MICHELE M., & FREEBODY, PETER. The effects of various pre-reading activities on children's literal and inferential comprehension. *Reading Psychology*, July-September 1987, *8*, 189-209.

Compares a variety of prereading exercises on the subsequent text comprehension of 88 grade five pupils in Australia. A secondary purpose was to document children's preferences for the various prereading activities and their explanations of preference. Pupils were assigned to treatment groups after random selection from ability ranked quartiles. In three half-hour daily practice sessions pupils were given practice in one on the following prereading exercises: (1) an irrelevant task (control); (2) a pictorial introduction to the topic; (3) content directed prereading questions; or (4) free association to the passage's title. On day four, subjects were posttested on literal and inferential comprehension of four expository passages, using the practiced pre-reading activities. Comprehension was assessed with sentence recognition tests of textually explicit (TE), textually implicit (TI), and scriptally implicit (SI) statements to be marked as either true or false. A MANCOVA was conducted with gender and two measures of language ability serving as covariates. There was a significant multivariate effect for type of prereading exercise ($p < .01$). Only on SI comprehension measures were the effects of prereading activity exercises significant over the control group. While means of the picture access group were higher on all indices of comparison, significance was obtained only for TI comprehension scores. When structured versus unstructured verbal techniques were compared, only the TE comprehension contrast attained significance. Children were asked to rate the efficacy of each type of prereading activity and to provide rationales. Both picture and structured verbal access were significantly more preferred than control and unstructured access. Preferences matched the overall efficacy of each exercise as a comprehension facilitator.

MARIA, KATHERINE, & MACGINITIE, WALTER. Learning from texts that refute the reader's prior knowledge. *Reading Research and Instruction*, Summer 1987, *26*, 222-238.

Studies the effect of prior knowledge that is incongruent with the text and the effect of three different text structures on comprehension. Subjects were 25 poor comprehenders and 19 good comprehenders in grades five and six of a parochial school. Poor comprehenders were identified as having below-average reading comprehension scores but adequate word recognition skills. A prior knowledge questionnaire was administered to determine misconceptions and to use as the basis for constructing texts designed to correct misconceptions by giving contradictory information. Texts were constructed in three versions: two with contrast structures in which the assumed misconceptions and the new contradictory evidence were

referred to and one which presented the new information only. In addition, one contrast version was presented in two conditions: (1) the reader held the misconception referred to in the text, and (2) the reader did not hold the misconception. Subjects each read orally 24 texts, (six of each type), gave an oral recall, and answered Yes-No questions about the text. Refutation texts with a contrast structure were easier than texts stating only the correct information. Explicit recall of elements of contrast structure was found to be positively related to recall of correct information.

ROBERTS, THERESA A. Development of pre-instruction versus previous experience: Effects on factual and inferential comprehension. *Reading Psychology*, April-June 1988, *9*, 141-157.

Examines the effects of providing versus applying prior knowledge on factual and inferential comprehension. A sample of 139 fifth graders and 117 ninth graders were classified as having high or low prior knowledge of soccer. All subjects received topic-appropriate or topic-inappropriate prereading instruction, read a grade appropriate text on soccer, and completed an open-ended comprehension measure. The posttest included items which assessed factual and inferential comprehension for soccer-related or non-soccer related content, thus yielding four dependent variables. A three factor ANOVA (prior experience, type of prereading instruction, and age) was used to assess effects. For both soccer-related and nonsoccer factual items, significant main effects were found for prior experience and age in the expected direction. For soccer-related inferential questions, a significant second-order interaction between pre-instruction, experience, and age was revealed. Experienced young subjects profited more from receiving relevant pre-reading instruction, whereas experienced older subjects benefited from prior experience whether pre-instruction was relevant or not. Significant main effects for pre-instruction and age were found for the nonsoccer inferential items.

WILHITE, STEPHEN C. Headings as memory facilitators: The importance of prior knowledge. *Journal of Educational Psychology*, March 1989, *81*, 115-117.

Assesses the effectiveness of headings on multiple-choice test performance. The 94 college undergraduates included 43 who were taking a course on learning and memory and were designated as having high-preexisting knowledge of the topic to be read. The other 51 students were termed the low-preexisting knowledge group. Material to be learned was a 4,840-word passage on organization in memory, divided by headings into nine sections. In one version of the passage, each section was preceded by a word or short phrase heading; in the other version, there were no headings. Retention was assessed by means of a 16-item, four-alternative multiple-choice test, containing one main idea and one detail question from each of eight of the passage sections. Subjects also took a locus of control test. A facilitative effect for headings was found only for main ideas by subjects with high preexisting knowledge.

HARRIS, RICHARD JACKSON; SARDARPOOR-BASCOM, FARZANEH; & MEYER, THERESE. The role of cultural knowledge in distorting recall for stories. *Bulletin of the Psychonomic Society*, January 1989, *27*, 9-10.

Uses a cued recall task in examining the effect of culturally based knowledge on recall of stories. Subjects, 91 undergraduate psychology students, read three pairs of stories in either a version consistent with American culture or a version consistent with Mexican culture. Either one-half hour or two days later subjects received a copy of each story with blank spaces to be filled in where selected words had been deleted. There were fewer correct recalls at the delayed testing, but recall did not differ for the two story treatments. Recall of the inconsistent story after two days showed an increase in the number of errors reflecting intrusions from the subjects' own culture.

McKoon, Gail, & Ratcliff, Roger. Semantic associations and elaborative inference. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, March 1989, *15*, 326-338.

Examines in three experiments the effects of semantic association on inference processes. Undergraduates in introductory psychology classes served as subjects for all experiments. In Experiment 1, two groups of 36 students each were presented with pairs of either weak-association sentences or pairs of strong-association sentences. The first sentence of each part predicted the event represented by the test word. Second sentences used as many of the same words as the first sentence as possible but did not predict the event represented by the test word. For each pair, there were four test words; one was the predicted event, another was the main character, and two were other words each used in both sentences. Subjects were to respond as to whether or not a test word had appeared in a studied sentence. The other two experiments followed up the results of Experiment 1. The general findings indicated that the degree of encoding can depend on the amount of semantic-associative information available to support the inference processes. When testing is delayed, with other texts and test items intervening between a text and its test word, performance depends on the amount of semantic-associative information in the text. If the inferences represented by the test words are not supported by semantic associates in the text, they appear to be only minimally encoded, but if they are supported by semantic associates, they are strongly encoded. With immediate testing, performance was found to depend upon semantic-associative information, not on textual information. The authors indicate that results point to the fast availability of semantic information that allows it to support inference processes.

Reutzel, D. Ray, & Hollingsworth, Paul M. Highlighting key vocabulary: A generative-reciprocal procedure for teaching selected inference types. *Reading Research Quarterly*, Summer 1988, *23*, 358-378.

Investigates the effectiveness of highlighting key vocabulary and using a generative-reciprocal inference procedure on ability to make inferences. A factorial design was used that included three levels of reading ability (high, middle, and low) crossed with three treatments (generative-reciprocal inference, basal inference, and a basal control). Seventy-one third-grade children were randomly assigned to one of the three treatment conditions. The primary instructional technique being investigated, the Generative-Reciprocal Inference Procedure (GRIP), was based on previous research. In this procedure pupils highlighted key vocabulary in passages, generated lists of clue words for writing inferential passages, wrote short inferential passages, and exchanged roles with the teacher in solving each other's generated passages. A series of near, far, and delayed transfer measures was used to assess the effectiveness of the treatments. A significant effect favoring the GRIP was found on the near transfer measure; however, the training procedure was not equally effective with all types of inferences. For far transfer measures, GRIP pupils scored significantly higher on literal and inferential comprehension questions but not on cloze tests. Similarly, significant differences were found for the GRIP on the delayed transfer measure of literal and inferential comprehension questions.

Fletcher, Charles R. A process model of causal reasoning in comprehension. *Reading Psychology: An International Quarterly*, Winter 1989, *10*, 45-66.

Reports briefly four experiments designed to test the author's model of text comprehension and recall. Subjects in all experiments were undergraduate students. The first two experiments were designed to test the model's assumptions that the last clause with antecedents but no consequences in the preceding text becomes the focus of attention after each sentence is read. The other two experiments test other underlying assumptions of the model. The assumptions are supported.

IDOL, LORNA. A critical thinking map to improve content area comprehension of poor readers. *Remedial and Special Education*, July/August 1987, *8*(4), 28-40.

Utilizes a mapping strategy for thinking critically about social studies text with six high school students and evaluates results. Two of the subjects were enrolled in a special education program for educable mentally handicapped, and four were in a remedial reading program. All reportedly had adequate word recognition skills, but teachers identified them as having difficulty in comprehension. Following baseline data collection, instruction was conducted using a model-lead-test paradigm in which the teacher modeled the response desired when students were using the critical thinking map, led the student in completing the map, and finally allowed the student to work independently. The critical thinking map included work on main idea, supporting points, other viewpoints, reader's conclusion, and relevance to a contemporary situation. All subjects showed improvement in comprehension of daily lessons. The four remedial reading students maintained improvement over time. Subjects were able to use the approach with a different social studies textbook and four showed improved performance in reading in a different content area. Standardized test results also showed improved performance.

GRAVES, ANNE W. Effects of direct instruction and metacomprehension training on finding main ideas. *Learning Disabilities Research*, Summer 1986, *1*, 90-100.

Compares the efficacy of metacomprehension plus direct instruction, direct instruction alone, and a control condition in finding the main idea. The final sample included a total of 24 pupils in grades five through eight, with eight in each condition. Children in each condition were trained individually in four oral reading and four silent reading sessions. Results indicated that metacomprehension plus direct instruction was more effective in finding main ideas than the other two procedures. Direct instruction training was more effective than control training.

VOSNIADOU, STELLA; PEARSON, P. DAVID; & ROGERS, THERESA. What causes children's failures to detect inconsistencies in text? Representation versus comparison difficulties. *Journal of Educational Psychology*, March 1988, *80*, 27-39.

Investigates whether elementary school children's difficulties in detecting inconsistencies in text are related to their failure to represent each of two inconsistent propositions in memory or to their failure to compare the representations of the inconsistent propositions with one another, once each proposition has been represented in memory. Three kinds of inconsistencies were considered: (1) falsehoods (a textual proposition conflicts with a potentially known fact; (2) factual contradictions (one textual proposition conflicts with another textual proposition, and one of the propositions is a potentially known fact), and (3) textual contradictions (one textual proposition conflicts with a second textual proposition, and neither is a known fact). In Experiment 1, 80 first-, third-, and fifth-grade children were asked to detect familiar falsehood and unfamiliar factual contradictions in narratives. Results showed that the familiar falsehoods were easier to detect than the unfamiliar factual contradictions. In Experiment 2 ($N = 30$), however, when the familiarity variable was controlled, no differences in inconsistency detection were observed among falsehoods, factual contradictions, and textual contradictions. In addition, in both experiments an analysis of the recall protocols indicated that detection failures were related more to incomplete recall of the inconsistent information than to difficulty in comparing the inconsistent propositions. The results indicated that children's inconsistency detection failures are related more to difficulties in forming accurate mental representations of textual propositions than to difficulties in comparing the inconsistent information once it is represented in memory. The researchers suggest that greater attention be paid to the conditions that support text representation because those conditions are likely to affect comprehension monitoring as well.

GLENBERG, ARTHUR M., & EPSTEIN, WILLIAM. Inexpert calibration of comprehension. *Memory & Cognition*, January 1987, *15*, 84-93.

Assesses the ability of experts to judge their own reading comprehension. A sample of college students, knowledgeable in either physics or music, read selected passages from those domains, rated their confidence in ability to answer inferences for each text type, and completed an inferential comprehension task based on the passages. Results found a negative relation between level of knowledge in a domain and calibration in that domain. Calibration, or the degree of association between confidence and performance, decreased as content knowledge increased. However, data indicated that subjects could fairly accurately judge the quality of their performance on the inference task.

LUNDEBERG, MARY A. Metacognitive aspects of reading comprehension: Studying understanding in legal case analysis. *Reading Research Quarterly*, Fall 1987, *22*, 407-432.

Reports the results of five studies, one descriptive and four experimental, to test the theory that novices can be taught to use the reading strategies employed by experts to improve their reading comprehension. Study one determined the reading strategies used by practicing lawyers and law professors and the obstacles encountered by novices as both groups read legal cases. Studies two through five gave the identified strategies to different groups of students at varying points in their law school preparation: no experience, two weeks' experience, two months' experience, and one to two years' experience. Students in all experiments but the last were given the four-step case analysis guidelines with or without metacognitive strategy training in guideline use. In each of the experimental studies, a control group received no intervention. A total of 122 students participated. For students with no law school experience, written guidelines in case analysis significantly increased their test performance. For those with two weeks' experiences, training and guidelines produced higher mean test scores, with the training group scoring higher than the group receiving the guidelines only. Significance varied with test question type. After two months' experience, students trained in using guidelines performed significantly better than students given guidelines only or no guidelines. Again, performance differed with test question type. After one or two years' experience, the group given written guidelines significantly outperformed the group given no guidelines in only one section of the test.

ZABRUCKY, KAREN, & RATNER, HILARY HORN. Effects of reading ability on children's comprehension evaluation and regulation. *Journal of Reading Behavior*, March 1989, *21*, 69-83.

Presents a report of research examining evaluation and regulation processes in good and poor readers using on-line and verbal report measures. The 20 parochial school sixth graders who served as subjects were classified as good or poor readers on the basis of the reading subscale of the IBST. Materials consisted of four versions of each of eight 11-sentence stories. Versions of stories differed only in the content of one sentence, the context sentence, which was either factually congruent or factually incongruent with a target sentence. In two versions target sentences were adjacent to the context sentence, and in the other two versions, context and target were nonadjacent or far. Stories were presented one sentence at a time, and children were videotaped as they read each story. Reading times for reading individual sentences were determined from the videotapes. Interviews were conducted following reading to collect recalls and to determine if children reported inconsistencies. Regulation of comprehension was assessed by look-backs engaged in by children. All children spent more time reading incongruent than congruent target sentences. Good readers were more likely than poor readers to accurately discriminate between congruent and incongruent information, particularly when the two sentences were adjacent. Good readers were more

likely than poor readers to look back for incongruent information. Good readers were also more likely to recall text inconsistencies.

ENGLERT, CAROL SUE; HIEBERT, ELFRIEDA H.; & STEWART, SHARON R. Detecting and correcting inconsistencies in the monitoring of expository prose. *Journal of Educational Research*, March-April 1988, *81*, 221-227.

Compares the ability of children at two grade levels and three achievement levels in their ability to detect and correct three types of inconsistencies in text embedded in three types of expository discourse. Subjects included 57 children at grade 3 and 57 at grade 6 who were placed into three reading ability groups based on scores on the CTBS. A nine-item test was developed consisting of three passages for each of three text structures: comparison/contrast, enumeration, and sequence. Passages consisted of five sentences with the first sentence introducing the topic sentence and text structure. An inconsistency was embedded in either the fourth or last sentence. Inconsistencies were reader-based, text-based, or text-structure-based. Children were asked whether everything made sense and to make any changes when they felt something did not make sense. Good readers and older children were better able to select discrepant parts of the text than were younger children and poor readers. Text-structure inconsistencies were most difficult to detect, followed by reader-based. At grades 3 and 6, respectively, 57% and 41% of responses showed no sensitivity to passage inconsistency.

PALINCSAR, ANNEMARIE SULLIVAN; BROWN, ANN L.; & MARTIN, SUZANNE M. Peer interaction in reading comprehension instruction. *Educational Psychologist*, Summer/Fall 1987, *22*, 231-253.

Conducts an exploratory study designed to evaluate the effects of peer tutoring using four comprehension-monitoring strategies. The study, conducted in three different schools utilizing seventh graders as tutors and tutees, involved several stages. First, three groups of tutor-tutee were identified by a series of tests. Next all identified pupils were introduced to the strategies and format of reciprocal teaching. Tutors were then given 10 days of reciprocal teaching instruction; this was followed by 12 consecutive days in which tutor-tutee dyads or triads engaged in reciprocal teaching. One week following intervention, a three-day maintenance phase was initiated, including comprehension assessments and posttests. Three instructional groups were used in each of the three classes, with tutors working with two tutees in two schools and with one tutee in the third school. Both tutors and tutees maintained or improved their comprehension accuracy during intervention and maintenance periods. In addition to comprehension assessments, one set of transcripts from one peer group was examined. Examples of instructional statements by the tutor are given.

CROSS, DAVID R., & PARIS, SCOTT G. Developmental and instructional analyses of children's metacognition and reading comprehension. *Journal of Educational Psychology*, June 1988, *80*, 131-142.

Investigates the effects of an experimental curriculum in metacognition on reading comprehension and reader awareness. Eight intact classes (four third-grade classes and four fifth-grade classes) were randomly assigned to either a treatment condition or a control group. Pupils in the experimental group received training in the Informed Strategies for Learning (ISL) curriculum for a period of four months. The first phase of the training focused on awareness of reading goals, plans, and strategies. The second phase emphasized specific comprehension strategies. The third phase addressed comprehension monitoring. Pre- and post-data were collected in the fall and spring of the school year. Dependent measures consisted of the comprehension section of the GMRT, informal cloze tests and error detection tasks to assess strategic reading, the Reading Awareness Interview, and the strategy

rating task. Cluster analysis was used to analyze the multivariate profiles and to identify subgroups of children who responded differently to metacognitive instruction. In both grades children in the experimental groups made significantly greater progress in metacognition and the use of reading strategies. The data revealed an incongruence between reading awareness and reading performance at third grade but increasing congruence between awareness and performance at fifth grade. Some significant aptitude-treatment interactions were also found.

CHAN, LORNA K.S., & COLE, PETER G. The effects of comprehension monitoring training on the reading competence of learning disabled and regular class students. *Remedial and Special Education*, July/August 1986, *7*(4), 33-40.

Evaluates the effectiveness of teaching comprehension monitoring strategies to disabled and normal readers. Thirty-six LD children, ages 10 to 12, were matched on the basis of RA with 36 normal readers. Subjects were assigned to one of four treatment groups. The self-questioning only group was trained to generate questions about the content of what was read. The underlining only group was taught to underline interesting words in reading. The self-questioning and underlining group received a combination of the first two techniques. A read-reread group served as a control. Instruction took place over four half-hour sessions. Subjects completed a multiple-choice comprehension exercise following each training session, and a delayed transfer exercise following all training. A series of ANOVAs revealed that LD children in all three experimental groups scored significantly higher in comprehension than their counterparts in the control group. No significant treatment conditions were found for the normal readers. LD pupils performed comparably to normal students on the daily recall measures but significantly lower on the transfer exercise. A significant interaction between training condition and type of posttest showed that the read-reread strategy was the least effective for the daily comprehension assessment, and the underlining strategy was the most effective for the transfer task.

WARREN-LEUBECKER, AMYE, & CARTER, BETH WARREN. Reading and growth in metalinguistic awareness: Relations to socioeconomic status and reading readiness skills. *Child Development*, June 1988, *59*, 728-742.

Studies three types of metalinguistic awareness (phonemic, word boundary, and word order in sentences) and their relation to SES, vocabulary, reading readiness skills, and reading achievement in kindergarten and first grade children. The study was conducted over one academic school year and involved 43 kindergartners (mean age 5.8) and 45 first graders (mean age 6.10) chosen at random from one public school in an urban area. The kindergarten sample included 26 average and 17 lower SES subjects; the first grade group was comprised of 30 average and 15 lower SES subjects. The kindergarten children received no formal reading instruction during the course of the study. During early December and again during May, each subject was individually administered four different tasks: the PPVT and three metalinguistic tasks (phonemic, word boundary, and word order awareness). First grade subjects were administered one standardized readiness test in December, the *Metropolitan Readiness Test* (MRT), and one reading achievement test in May, the GMRT. Kindergarten subjects were tested in May with the MRT. Data analyses showed that first grade subjects and higher SES children generally improved more between times of testing in phonemic and word order awareness. All groups improved equally in vocabulary. The three metalinguistic tasks were highly interrelated, but when the effects of oral language comprehension or vocabulary were removed, the relations diminished significantly. A hierarchical model was initially supported, in which metalinguistic awareness skills, specifically phonemic segmentation, were superordinate and better predictors of reading, whereas all other factors were lower order, affecting reading only through their relation with metalinguistic skills.

LEWIS, KAY, & HARRISON, COLIN. Do young readers find direct speech difficult to read? *Reading*, April 1988, *22*, 51-60.

Attempts to discover whether children find texts written in direct speech easier to understand than those written in indirect speech. In a pilot study with first-and second-year juniors in a Nottinghamshire school, the children were significantly better able to replace deleted pronouns (in a cloze-type task) from passages in indirect speech as opposed to direct speech. A referent location test was subsequently piloted in which subjects were required to identify in text the person or thing to which selected pronouns referred. Again, children made almost twice as many errors in identifying the referents of pronouns which were in sections written in direct speech as opposed to indirect speech. A different, but parallel, class from the same school completed both a cloze test and a referent location test on an excerpt from a book. The cloze test deleted 12 pronouns, six each from passages of direct and indirect speech. In the referent location test, pupils were asked to match twelve pronouns with their referents in text. Results indicated an equal number of correct cloze responses in both sections. Yet children were significantly more successful in identifying the referent of pronouns in indirect speech.

OLSON, DAVID R., & TORRANCE, NANCY. Language, literacy, and mental states. *Discourse Processes*, April-June 1987, *10*, 157-167.

Examines young children's ability to distinguish between what is said and what is meant in text. A sample of children from grades one through four were read six short stories, each ending with a statement containing one of the verbs *think*, *know*, or *pretend*, followed by a plausible complement. After each story the children were asked to judge the truth of the complement (yes, no, maybe) and to justify their responses. Results showed no effect for grade level, because the number of items correct for *pretend* and *know* were at ceiling level. However, all subjects performed significantly worse on the verb *think*. The type of justification children used to explain their responses varied with grade level with older students showing greater reference to the text to justify their responses.

LASISI, M.J.: FALODUN, SOLA; & ONYEHALU, A.S. The comprehension of first- and second-language prose. *Journal of Research in Reading*, February 1988, *11*, 26-35.

Investigates, in two experiments, the effect of cultural medium of presentation, language, and sequence of cultural/foreign and first-language/second-language presentation on literal and interpretive comprehension. In both experiments, subjects were 300 bilingual seventh grade Nigerian pupils, ranging in age from 10 to 13 years old. Subjects were randomly assigned to two control groups and four treatment groups. For both experiments, treatment groups were given two coordinated passages: one foreign-based and one culture-based followed by multiple-choice questions.Sequencing of presentation was varied, with each group exposed to one of the following sequences: (1) single text; (2) double text, foreign-based text first; and (3) double text, culture-based text first. The two control groups received Sequence 1 with either the foreign- or the culture-based passage. The other four groups followed Sequence 2 or 3 and were tested on either the foreign-based passage or the culture-based passage. In Experiment 2, an English language version and a first-language translation were prepared. Experiment 1 resulted in significantly superior scores for culturally related text as opposed to foreign-based text. In Experiment 2, scores were higher for first-language text. First-language text at the literal level resulted in higher comprehension scores than did the use of second-language text at both the literal and interpretive levels. For both experiments, scores were higher at the literal level and sequencing had little effect on improving comprehension of culturally unfamiliar material.

DAVIS, JAMES N.; LANGE, DALE L.; & SAMUELS, S. JAY. Effects of text structure instruction on foreign language readers' recall of a scientific journal article. *Journal of Reading Behavior*, September 1988, *20*, 203-214.

Seeks to determine the effect of instruction in the structure of experimental reports on the comprehension of research reports read in French by nonnative readers of French. Subjects were 40 undergraduates, all having the equivalent of four quarters of undergraduate French and estimated to be high-intermediate-level readers of French. Two articles were adapted from *Science* magazine and translated into French, with each written in canonical experimental report order (problem, description, results, conclusion) and in coherent but noncanonical structure. Students were randomly assigned to two groups, one receiving instruction in the structure of experimental reports and a control group. Subjects received one of the four texts to read and were asked for a written recall. ANOVA on the total number of idea units recalled revealed that experimentals had significantly better recall than controls, but only when the texts were in canonical order.

KING, TSANG WAI. Text modifications in ESL reading comprehension. *RELC Journal*, December 1987, *18*, 31-44.

Investigates the effects of text modifications on the reading comprehension of Cantonese-speaking learners of English as a second language. Subjects were 401 Cantonese speakers and learners of ESL at a school in Hong Kong. Students were in Forms 3 to 7 in the school, equivalent to grades 9 to 13, and ranged in age from 14 to 21 years old. Three versions of the same text were prepared: a native-speaker text, a modified input text, and a modified interactional structure text. The same 20-item multiple-choice test followed each text. Subjects were randomly assigned to read one of the three text versions and take the test. Overall, the modified text versions were found to give better comprehension scores than the native-speaker version. However, main effects for text version were present only for Forms Three and Four. The imput modified version was more effective than the interactional structure modified version.

SWOOPE, KAREN F., & JOHNSON, CAROLE SCHULTE. A reexamination of effects of reader- and text-based factors on priority judgments in expository prose. *Journal of Educational Research*, September-October 1988, *82*, 5-9.

Partially replicates an earlier study that compares the effects of text-based and reader-based factors on judgments of the importance of information in expository text. A sample of 132 college students was randomly assigned to four treatment groups. A 2 × 2 factorial design compared two levels of prior knowledge (training versus no training) and two levels of text structure (elaborated versus unelaborated). After reading a passage about insects, all subjects rated a list of items in terms of importance and wrote a summary of what they had read. Significant main effects were found for prior knowledge training and text elaboration on the importance rating task; however, neither independent variable was significant on the written summary task.

GARNER, RUTH, & GILLINGHAM, MARK G. Students' knowledge of text structure. *Journal of Reading Behavior*, 1987, *19*(3), 247-259.

Assesses children's knowledge and awareness of selected aspects of text structure. Fifteen pupils each from grades five and seven were presented with seven randomly arranged sentences on a computer monitor and asked to construct a "good" paragraph and a "bad" paragraph. After completing the production task, subjects were asked to explain the characteristics of a good paragraph. Three scores were obtained for each of three text features: topical relatedness, superordination, and cohesion. A performance score was based on the

good paragraph; an awareness score was based on the difference between the good and bad paragraph, and a verbal report score was derived from the follow-up interview. Seventh graders performed significantly higher in topical relatedness awareness and the superordination verbal report. The relations between knowledge reported (verbal report) and knowledge demonstrated (performance on the good paragraph) were low and nonsignificant for topical relatedness and superordination. The relation for cohesion was moderately high. Overall, pupils performed poorly in constructing the good paragraph. When awareness was compared to performance, children performed considerably higher in awareness on topical relatedness and cohesion but not superordination.

SHANNON, PATRICK; KAMEENUI, EDWARD J.; & BAUMANN, JAMES F. An investigation of children's ability to comprehend character motives. *American Educational Research Journal*, Fall 1988, *25*, 441-462.

Investigates the ability of elementary-age children to understand and recall character motives. Participants included 15 children each at grade levels 2, 4, and 6, with final results reported for 37 of these pupils. Materials consisted of nine fables, each written at readability levels 1, 3, and 5. Children individually read or listened to the fables three at a time in three different time blocks. Fables were altered so that the explicitness of the character motive was divided equally into 3 that were textually explicit, 3 that were textually implicit, and 3 that were scriptally implicit. Children were asked to retell the fable and then to answer orally six comprehension questions. Separate $3 \times 2 \times 3$ ANOVAs with repeated measures for each of four dependent measures (recall of motives, recall of details, questions about motives, questions about details) indicated a statistically significant difference for grade level on questions about character motives ($6 > 4 > 2$) and a statistically significant difference among text types (textually explicit > than the other two). Children's overall performance tended to be poor on all four measures.

BINGHAM, ADELAIDE BATES; REMBOLD, KAREN L.; & YUSSEN, STEVEN R. Developmental change in identifying main ideas in picture stories. *Journal of Applied Developmental Psychology*, October-December 1986, *7*, 325-340.

Reports two studies that explore developmental differences in identifying main ideas of narratives. The picture arrangement tasks from the WISC-R were used as stimulus picture stories. Four alternative main idea statements were written for each story using elements from story grammar theory and text summarization research. In Experiment 1, 20 college students were shown the picture stories and asked to rank order the main idea statements from each. Subjects ordered the statements as follows: (1) superordinate action statement; (2) subordinate action statement; (3) subordinate setting statement; and (4) the inaccurate superordinate statement. In Experiment 2, the same tasks were administered to a sample of second, fifth, and eighth graders. Significant differences in overall performance were found between second versus eighth graders and fifth versus eighth graders, but not for second versus fifth graders. Performance on the main idea task was positively correlated with performance on the reading comprehension test of the CAT for fifth and eighth graders, but not for second graders. An analysis of pairwise contrasts revealed a slightly different pattern of choices among the various main idea alternatives at each of the three age levels. As children increase in age, they improve in their ability to distinguish important from unimportant events in a story, and between superordinate and subordinate statements of the story action.

SCHWEIGERT, WENDY A., & MOATES, DANNY R. Familiar idiom comprehension. *Journal of Psycholinguistic Research*, July 1988, *17*, 281-296.

Investigates the comprehension of idioms by 57 undergraduate students enrolled in a psychology class. Forty short paragraphs were written for 20 familiar idioms, with each para-

graph ending in an idiom target sentence. Idiom target sentences were written so that idioms were used (1) figuratively in one sentence (idiom-figurative sentence) and (2) literally in the other (idiom-literal). Control paragraphs not ending in an idiom were also written. Two lists were developed, each containing 10 idiom-literal, 10 idiom-figurative, 20 control, and 20 filler sentences. Each idiom appeared only once in each list. Subjects were presented with one of the lists and saw one-half of the list during a sentence context condition, and the other half during a paragraph context condition. Twenty-four students were presented with a cued recall test 24 hours after the presentation session. Sentences containing idioms used literally needed to be presented more times to be correctly and completely read than sentences that contained idioms used figuratively. This finding held for both the sentence and the paragraph context conditions. Cued recall was better for idioms used literally than for those used figuratively. Results were interpreted as supporting a model of idiom comprehension that suggests the figurative meaning is processed first; only if that one is inappropriate is the literal meaning processed.

HARE, VICTORIA CHOU; RABINOWITZ, MITCHELL; & SCHIEBLE, KAREN MAGNUS. Text effects of selected text features on main idea comprehension. *Reading Research Quarterly*, Winter 1989, *24*, 72-88.

Reports two studies which examine the effects of selected text features on main idea comprehension. In Study 1, a sample from grades 4, 6, and 11 was asked to read and underline main idea statements in two types of texts: (1) regular, explicit listing texts, and (2) contrived, extra-categorical listing texts. In addition, the main idea statement was manipulated among initial, medial, and final positions. All subjects read both grade-appropriate passages and third-grade passages. An analysis of the third-grade passages found significant main effects for text types and grade level. Students identified significantly more main ideas statements for the regular list texts, and older students performed better than younger. A singificant interaction between main idea position and grade was found, but the interaction between main idea position and text type was not significant. Similar results were found for the grade-appropriate texts. A follow-up error analysis explored strategies that readers were using. In Study 2, the same subjects were presented with four text types (listing, sequence, comparison/contrast, and cause/effect) that had either explicit or implicit main ideas and were asked to identify, or generate, a main idea statement. As in the first study, all subjects read grade-appropriate passages as well as third-grade passages. An analysis of the third-grade results found significant main effects for grade, explicitness, and text type. A significant interaction between explicitness and grade was also found. Similar results were found for the grade-appropriate texts with the addition of a significant interaction between text types and grade. Overall, students inferred significantly fewer correct main ideas in less constrained texts than they did in contrived texts.

BOSMAN, ANNY M.T., & DE GROOT, ANNETTE M.B. Sentential priming of semantic information in good and poor young readers and in adults. *Perceptual and Motor Skills*, April 1989, *68*, 343-353.

Draws on previous research of contextual processing by adults to establish procedures for testing whether 8- to 10-year-old children with good and poor reading comprehension abilities differed in their use of contextual information while reading, and replicates the original study of adults with minor modifications. Based on previous research, it was assumed (1) that proficient contextual processing was indicative of active reading, (2) that low contextual processing performance was indicative of passive reading, and (3) that proficient young readers would perform in a manner similar to adults. Contextual processing was assessed using two lists of 40 sentences which were presented in islolation followed by a verification question assessing one aspect of the meaning of one word that occurred in the target sentence. Test

sentences presented three different contextual conditions (experimental conditions): a congruent condition, an incongruent condition, and a neutral condition. One list was presented to each subject individually, using a computer, and response time (RT) was recorded. In the first experiment, data were analyzed for 119 children, 57 from grade 2, and 62 from grade 4. The adults participating in the second experiment were 64 students and/or staff members of one university psychology department. Results of the first experiment indicated that all children made very few errors (4.2% overall). Verification RT was shorter for fourth graders than for second graders, and it was shorter for good comprehenders than for poor comprehenders. Results of the second experiment only partially replicated results of the original study. However, in spite of this alternative outcome, the pattern of results for the adults in this study and the grade 4 good comprehenders were similar, i.e., an inhibitory effect for incongruent context, unaccompanied by a facilitative effect of congruent context. Consistent with the hypothesis, grade 2 and grade 4 poor comprehenders showed neither a facilitatory effect of congruent context nor an inhibitory effect of incongruent context. One exception was noted in the grade 2 poor comprehenders who showed a facilitative effect of congruent, context-dependent context.

BLACK, ALISON; FREEMAN, PAUL; & JOHNSON-LAIRD, P.N. Plausibility and the comprehension of text. *British Journal of Psychology*, February 1986, *77*, 51-62.

Reports two studies that examined the relation between plausibility and comprehension. In Experiment 1, a sample of adult subjects read three folktales and produced written recalls of each. The three passages were previously constructed by a different panel of subjects so as to reflect varying degrees of plausibility (i.e., original, first-order, and third-order approximation). An analysis of the mean length of recall and mean number of idea units recalled showed a reliable decline in memory for the texts as they declined in plausibility. Similar procedures were followed in Experiment 2, except that each subject served as his/her own control, reading an original story, a third-order variant, and a first-order variant. As in the first study, an analysis of the written recalls showed that the more implausible a passage was, the poorer it was recalled.

GOLD, JOYCE, & FLEISHER, LISA S. Comprehension breakdown with inductively organized text: Differences between average and disabled readers. *Remedial and Special Education*, July/August 1986, *7*(4), 26-32.

Contrasts recall of main ideas on inductively organized and deductively organized paragraphs. Participants included 83 fourth graders and 86 sixth graders, all scoring between 4.0 and 4.9 on the reading comprehension subtests of the SRA. Materials consisted of 48 expository paragraphs, three to four sentences long. Half were organized deductively with the main ideas stated in the first sentence and followed by supporting details. Half were organized inductively with the main idea either not explicitly stated or stated toward the end of the paragraph. Half of each pupil group was tested for main idea with a multiple-choice test; half with a retell. Inductively organized material caused difficulty for almost all children. Error patterns on the retells suggested that average readers were approaching the text in a more systematic manner than disabled readers were. Differences between the two groups did not show up on the multiple-choice measure.

MEYER, BONNIE J.F. Organizational aspects of text: Effects on reading comprehension and application for the classroom. In James Flood (Ed.) *Promoting Reading Comprehension*. Newark, DE: International Reading Association, 1984, 113-138.

Reviews research on the effects of aspects of text structure and coherence on reading comprehension, and suggests implications of the research for classroom teachers as they select classroom materials and teach reading comprehension.

FELDMANN, SHIRLEY C., & FISH, MARIAN C. Reading comprehension of elementary, junior high, and high school students on print vs. microcomputer-generated text. *Journal of Educational Computing Research*, 1988, *4*(2), 159-166.

Compares reading comprehension of elementary, junior high, and high school students using informational and directional text presented on a microcomputer screen or in traditional print. Subjects consisted of 93 fourth- and fifth-grade pupils, 112 eighth graders, and 95 students in grades 9 through 12. Except for 25 of the elementary pupils, all subjects had been enrolled in computer classes. Materials included: (1) three passages of an informational nature, each between 150-250 words in length and followed by three to six multiple-choice questions, and (2) directional materials requiring subjects to read and follow instructions to complete accompanying forms. Both types of texts were prepared for microcomputer or paper presentation, and subjects were assigned randomly to either condition. Additional data collected included reading achievement test scores and two student checklists. ANCOVAs, using reading test scores as covariates, resulted in only one significant difference between the two conditions: the informational text was easier for the high school microcomputer users than the printed text. When the effects of gender were analyzed, elementary age girls had lower scores than boys on the microcomputer version of the informational text and high school girls scored lower than boys on the microcomputer directional text. Other reader characteristics showed no significant difference to comprehension in either medium.

SOKOL, KIRSTIN R. Abbreviations: Their effects on comprehension of classified advertisements. *Illinois Reading Council Journal*, Spring 1989, *17*, 21-26.

Reports two studies designed to assess the efforts of abbreviations on high school readers' comprehension of classified advertisements. Materials used in both studies were two forms of a questionnaire. Form A contained 40 questions about four classified advertisements written with abbreviations; Form B was identical except that the ads were written without abbreviations. In the first study, a total of 74 high school students enrolled in basic English classes in grades 9-12 in one school completed one of the two questionnaires. In the second study, 93 students in accelerated tenth grade English classes at the same high school completed both forms of the questionnaire. Two control conditions were established. The order of presentation of the two forms was varied, and the time lapse between completion of both forms was modified. A time delay of one week between completion of both forms was established for one condition. Data from both studies revealed that abbreviations do significantly decrease comprehension of classified advertisements. The negative effect of abbreviations on comprehension was evident at all grade levels with all types of advertisements used and in all conditions established for this study.

PERFETTI, CHARLES A.; BEVERLY, SYLVIA; BELL, LAURA; RODGERS, KIMBERLY; & FAUX, ROBERT. Comprehending newspaper headlines. *Journal of Memory and Language*, December 1987, *26*, 692-713.

Utilizes a series of six experiments to examine comprehension of newspaper headlines. A syntactic hypothesis was contrasted with a problem-solving hypothesis for comprehension. Subjects for the experiments were undergraduate students and ranged in number between 22 and 72. In general, students were given ambiguous headlines to read and processing time contrasted with that for unambiguous headlines. The syntactic hypothesis predicted more processing time for ambiguous than for unambiguous headlines, a result obtained in Experiments 2, 4, and 5. Experiment 6 indicated that headlines are comprehensible to readers without time pressure, but the ambiguities were not often perceived. Findings in general suggested that syntactic processes similar to those used in other instances of language comprehension are used in reading headlines.

FUSHIMI, YOHJI; KAMINAGA, HIROMI; & IWASAKI, TETSUO. The effects of constructive expression in scientific writing. *The Science of Reading*, October 1988, *32*, 99-109.

Studies the effect of a particular writing style, constructive expression, on comprehension of scientific text. Subjects, 78 college students, were divided randomly into experimental and control groups. Students were first given a questionnaire determining interest in learning biology and then read three pages on photosynthesis in either the constructive-expression style or in an ordinary expository style. The reading was followed by a question inquiring as to the level of interest in the material and why students evaluated it as they did. A comprehension test was then administered. The constructive-expression style facilitated comprehension and interest.

KAMEENUI, EDWARD J., & GRIFFIN, CYNTHIA C. The national crisis in verbal problem solving in mathematics: A proposal for examining the role of basal mathematics programs. *Elementary School Journal*, May 1989, *89*, 575-593.

Includes a literature review of six major areas of research in verbal problem solving: (1) the role of implicit models of cognition in solving verbal problems, (2) the role of metacognition in word-problem solving, (3) learner characteristics associated with successful word-problem solution, (4) characteristics of word problems, (5) classification systems for mathematical word problems, and (6) instructional programs and techniques best facilitating the acquisition of problem-solving skills. It is concluded that no particular pedagogy or curriculum in verbal problem solving seems to be most prominent in the literature. A descriptive study is proposed for evaluating word problem-solving instruction in basal mathematics programs.

IV-23 Research design

WILLSON, VICTOR L. Methodological limitations of the application of expert systems methodology in reading. *Reading Psychology*, April/June 1987, *8*, 73-81.

Examines the methodological procedures of expert systems being used in reading research. The four techniques that are prominent in this methodology are: (1) intact group comparisons; (2) think-aloud protocols; (3) retrospective analysis; and (4) naturalistic inquiry. Internal validity threats are identified for each technique. Difficulties with intact group comparison include causal ordering, instrumentation, limitations of generalization, and nonequivalent control group comparison. Think-aloud protocols often suffer from an imposed organization because researchers may tend to be more similar to the experts than to the novices. Retrospective studies are used infrequently, but were described as suspect if and when they draw implications for practice. Similarly, naturalistic inquiry becomes flawed when it fails to account for the facts and relationships previously learned.

GJESSING, HANS-JØRGEN. Function analysis as a way of subgrouping the reading disabled: Clinical and statistical analyses. *Scandinavian Journal of Educational Research*, 1986, *30*(3), 95-106.

Explores both function analysis and statistical procedures for the description and grouping of reading disabled/dyslexic children. The function analysis assessment entailed extensive documentation/observation of reading behaviors through clinical procedures and assignment of treatments based on specific needs. Validation of this clinical model involved a longitudinal study of 3090 children enrolled in schools in Bergen, Norway. Their reading performance was monitored in grades one through four, and, of the total population, 208, or 6.7%, were identified as reading disabled. The reliability of the identification and subgroup-

ing of dyslexic readers by applying both clinical, function analysis, and statistical analyses (factor analysis and cluster analysis techniques) was assessed. Results revealed that the function analysis procedures were effective, and high interrater reliability was achieved. High correspondence between the alternative procedures used to distinguish subgrouping patterns (function vs. statistical analyses) was also observed.

MOSENTHAL, PETER. Reading comprehension research from a classroom perspective. In James Flood (Ed.) *Promoting Reading Comprehension*. Newark, DE: International Reading Association, 1984, 16-29.

Suggests that researchers investigating reading comprehension in classroom reading lessons should combine research methodologies to study the recursive and reflexive phenomena occurring. Cause-and-effect or quantitative approaches are appropriate for studying the recursive aspects of reading comprehension acquisition, and ethnomethodological or qualitative approaches are appropriate for studying the reflexive aspects of reading comprehension acquisition. Researchers must study the text, task, and subject contexts, as well as the interaction between teacher and students.

PERKINS, KYLE, & BRUTTEN, SHEILA R. Using a facet design to assess the effects of the form, the source, and the frequency of information necessary to answer ESL reading comprehension questions. *Language Learning*, June 1988, *38*, 171-185.

Reports a study using an analysis of descriptive data in which the facets of structs from a facet design were measured and the relationships between the facets and the item scores from three ESL reading tests were determined. The three facets or structs included were the form of information, explicit or implicit; the source of information, text or nontext; and the frequency with which the information appeared in the text. These were entered into regression equations to determine how much variance the structs accounted for in the item scores from ESL reading comprehension tests taken by subjects from three different levels of proficiency. Subjects were nonnative speakers of English enrolled in full-time intensive English classes; 28 were enrolled in Level 2, 28 in Level 3, and 57 in Level 4. Level of placement was determined by the results of the TOEFL test score. Each level exam had 25 multiple-choice questions. Findings suggested that the facets were differentially related to the item scores at different levels of proficiency; i.e., the effects of the structs are modulated by the comprehension proficiency of the reader.

V. The teaching of reading

V-1 Comparative studies

IRVIN, JUDITH L., & CONNORS, NEILA A. Reading instruction in middle level schools: Results of a U.S. survey. *Journal of Reading*, January 1989, *32*, 306-311.

Surveys both a sample of 93 middle level schools recognized nationally for effective academic programs and an additional 154 middle schools selected randomly to determine current practices for the organization and instruction of middle school reading. Of interest was identification of differences between the two school types. Recognized schools were so designated by the Secondary School Recognition Program, U.S. Department of Education. The random sample was identified by selecting schools throughout the country following the same ratio of schools per state as the recognized schools. Surveys were sent to principals but were sometimes completed by reading specialists. The response rate was 83% of the recognized group and 57% of the random group. Results revealed that most of these schools offered a developmental reading course that was required for all pupils for some part of the school year, with heavier emphasis on such a course in the sixth grade. While reading performance

was reported to improve as pupils moved from grades six to eight, it appeared that more children read below grade level in the randomly selected schools. Many schools offered remedial courses or labs for those pupils reading below grade level. Reading in the content areas was not a primary emphasis in most programs; basals and skill materials were the most frequently used instructional materials. No relation was found between the presence of a reading teacher and any particular method of teaching reading. No real differences in organization for reading instruction were noted between the two school groups included in this study. However, the extent to which the recognized schools offered and required reading instruction was consistently higher than in the sample of randomly selected schools. A similar finding was observed with regard to the extent to which the schools offered schoolwide reading activities (silent reading time, book fairs).

ALLINGTON, RICHARD L., & MCGILL-FRANZEN, ANNE. School response to reading failure: Instruction for Chapter 1 and special education students in grades two, four, and eight. *Elementary School Journal*, May 1989, *89*, 529-542.

Examines the nature of reading instruction offered children who participate in resource room programs for the mildly handicapped and Chapter 1 programs for the economically disadvantaged to determine whether these programs differed in terms of participants' access to reading. Sixty-four children were observed: 32 were identified as handicapped and 32 received Chapter 1 services. Subjects were selected from schools that represented variations in context, service, program structures (in-class vs. pull-out), communities (rural, urban, and suburban), and different grades (2, 4, 8). An attempt was made to select subjects from the same classroom in each school to provide opportunity to observe pupils whose instruction differed only in terms of the remedial program they attended. This regular education classroom matching occurred for only 20 pairs of pupils. Most of the remaining pairs were drawn from the same grade level in the same school or district. Children were observed for the course of one school day, about 5.8 hours. The observer also interviewed the classroom teacher briefly at the end of the day to discuss the representativeness of the day and to clarify any questions. Observers used the student observation instrument (SOI) to collect data on children's instructional experiences. The SOI contained structured coding categories describing instructional settings within a time recording scheme. In addition, observers maintained field notes that described the instructional environment, the tasks assigned, and the instructional materials used. Analyses of the quantitative (time) and qualitative data indicated that Chapter 1 pupils received significantly more reading/language arts instruction in their regular education classes than handicapped children served through special education programs. Although the latter received more special reading instruction than did Chapter 1 participants, the amount was not sufficient to offset the loss in the regular education program. In addition, the instruction offered in the special education setting provided less direct teaching and more seat work than instruction in either the regular education or the Chapter 1 program.

HIROSE, TAKEHIKO, & HATTA, TAKESHI. Reading disabilities in modern Japanese children. *Journal of Research in Reading*, September 1988, *11*, 152-160.

Re-examines the incidence and characteristics of reading disabilities in Japan. A total of 871 subjects, age 11, were administered the Kitao reading ability test and the *Kyoken Intelligence Test*. A reading score of two or more years below grade placement and an IQ equal to or greater than 85 were employed as criteria for defining reading disability. It was found that 29.62% of children were one or more years behind in reading, 10.91% were two or more years behind, and 1.61% were three or more years behind. There were 14% of boys who scored two or more years below grade placement as opposed to 7.71% of girls. When analyzed by IQ distribution, 38.2% of children below IQ 90 had reading disabilities, while 3.6% with IQs over 120 were determined to have a reading disability. Findings suggested that

reading disabilities were associated with poor sentence memory and reasoning but not with word discrimination abilities.

CHABE, ALEXANDER M. The Russian school language program. *Reading Improvement*, Fall 1987, *24*, 171-175.

Examines the organization and content of the Russian school language program for grades 1 through 9 by studying Soviet academic and curriculum plans and by analyzing the state-mandated textbooks, the *bukvar*, the *Sputnik bukvarya*, and the graded language series *Russkii iazik*. Time allocated for language study decreases with the rising grades, while literature study increases. First graders have 12 hours of language instruction per week; 2nd and 3rd graders, 10 hours; 4th and 5th graders, 6 hours; 6th through 8th graders, 1 hour; and 9th graders 1 hour. The first three grades emphasize the rudiments of the Russian language. Grades 4, 5, and 6 focus on phonetics and morphology. Grades 7 and 8 stress syntax and punctuation, and grade 9 studies linguistics and stylistics. All textbooks are organized around didactic principles and, according to Soviet educators, attempt to develop esthetic feelings and appreciation for the beauty of the Russian language. The reviewer concludes that the program is unified and correlated, and fulfills its socio-political objectives.

WHYTE, JEAN; KILPATRICK, ROSEMARY; & MCILHENEY, COLIN. Reading problems among 16 year old school leavers in Northern Ireland. *Proceedings of the Ninth Annual Conference of the Reading Association of Ireland*, 1984, 63-82.

Surveys the reading abilities of 16-year-old school leavers in Northern Ireland. A sample of 921 trainees enrolled in the Youth Training Program, an education program for unemployed school leavers, was administered the NS6 Reading Test. Results were compared to 1976 norms for 11-year-olds and 15-year-olds. Overall, the sample performed marginally better than the 15-year-olds did in 1976. However, 20% of the sample scored below the average score for 11-year-olds. Test results were analyzed by scheme, by sex, by employment status of father, by type of school attended, and by examination record. An effort to interpret the results diagnostically was dropped due to the inappropriateness of the test for that purpose.

V-2 Status of reading instruction

IRVIN, JUDITH L., & LYNCH-BROWN, CAROL. A national survey of U.S. university reading clinics: Clientele, functions, and tests. *Journal of Reading*, February 1988, *31*, 436-442.

Surveys university reading clinics to determine which functions and which clientele the clinics generally serve and which tests are most frequently used in these clinics. Of the 376 surveys mailed, 279 responses were received (74%). Ninety-three of the respondents indicated they had no reading clinic. Data were reported for the 163 reading clinics whose primary function was as a training base for graduate students. The greatest percentage of clinics were in universities enrolling below 10,000 who diagnosed 30 to 60 clients annually (28%). Clients were predominantly of elementary (89%) and middle or junior high school levels (85%). Titles of all tests used by the clinic in 13 categories were compiled. Findings indicated that many reading clinics continue to administer tests which suggest a separate skills approach to assessment. Although there were relatively few tests reported to assess prereading abilities, *Concepts about Print* was most frequently mentioned. Respondents infrequently reported testing speaking, listening, and writing. The most frequently assessed language arts (as part of a reading test) were listening, comprehension and spelling. Perceptual skills appeared to be widely tested.

ANDERSON, ELEANOR. A critical look at the advice given to parents helping their children to read. In Peter Smith (Ed.) *Parents and Teachers Together.* Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 42-52.

Considers the extent to which a sample of publications for parents reflected insights from recent research in literacy development. Twenty-four research reports, pamphlets and articles for parents were inspected for the degree to which their content reflected seven research-based insights related to literacy acquisition: (1) the importance of self-concept, and the relationship between reader and listener in developing reader competence; (2) the value of miscues as insights into the child's efforts to construct meaning; (3) the need to talk about written language and the reading process; (4) the importance of answering children's questions about written language; (5) the role of print in the environment in children's awareness of written language; (6) the importance of reading stories to children; and (7) the importance of playing with rhymes and letters. The category most frequently referred to in the literature for parents was the importance of a positive relationship (22 of 24 articles). The next most frequently mentioned research-based insight was provision of opportunity for self-correction, with 14 articles encouraging opportunities for self-correction. The four most poorly represented categories (talking about the reading process, answering questions about print, the use of print in the environment, and playing with rhymes and letter shapes) were activities typically associated with the very early stages of reading development. The researcher speculated that these categories were underrepresented because they were considered irrelevant for children who had made a start in reading.

HANCOCK, ROGER. Parental involvement in children's reading: Results of a survey of Brent primary school headteachers. *Reading,* November 1988, *22,* 168-174.

Reports the results of a survey of 72 primary headteachers designed to assess the nature of parental involvement in children's reading. Descriptions of both school-based and home-based programs were secured and percentages of reported program features were tabulated. Structured home-based reading programs involved the regular reading of school books by children at home, clear instructions to parents, and written communication between home and school. School-based parental help involved parents working in schools with children selected for extra reading by the teachers. Responses indicated that home- and school-based parental involvement in reading was well distributed throughout Brent. Nearly all schools reported encouraging children to take books home to read to their parents. Just over half were operating structured home-based programs, and 56% reported using parents as volunteer reading helpers on the school premises. Of these, 75% indicated that they would encourage this form of volunteer help. General reservations were expressed by 36% of headteachers and mainly centered on the difficulties of developing closer and more meaningful links between home and school and upon the issue of professionalism and the teaching of reading.

BALD, JOHN. A review of research into parental involvement in reading. In Peter Smith (Ed.) *Parents and Teachers Together.* Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 21-30.

Reviews selected research on parental involvement in children's reading and suggests ways to improve the reliability of the research. Studies were sorted into two groupings: those dealing with children reading to parents, and those addressing paired reading. The reviewer stresses the importance of follow-up studies, as well as efforts to determine the impact of the programs on written and spoken language.

CALFEE, ROBERT, & DRUM, PRISCILLA. Research on teaching reading. In Merlin C. Wittrock (Ed.) *Handbook of Research on Teaching.* New York: Macmillan Publishing Co., 1986, 804-849.

Reviews selected research addressing the curriculum of literacy and the teaching of reading. Primary focus was given to research reflecting classroom practice and literature addressing more recent issues and paradigms, e.g., cognitive psychology and comprehension theory. A framework for the curricular domain of reading instruction was established by detailing four major components in skilled reading: decoding, word meaning, the comprehension of sentences and paragraphs, and the comprehension of entire texts. Specific research findings relative to instruction were discussed in three sections: instruction in decoding, in word meaning, and in various forms of comprehension. In each area general conclusions were presented followed by detailed discussions of a selected set of representative studies. The authors concluded that new directions in the research, including study of complex issues (comprehension) in difficult settings (the classroom), reflect a maturing of theory and methodology.

HALL, ANN HAYS. Critical readers: An endangered species? *Georgia Journal of Reading*, Spring/Summer 1988, *13*(2), 10-16.

Draws five major instructional implications from a survey of selected research and opinion literature on teaching critical reading. Included are: (1) the crucial role of the teacher, (2) critical reading skills need to be taught directly, (3) the effect of questions on thinking, (4) the need for content teachers to instruct for critical reading in their disciplines, and (5) the integrating of instruction in the communication areas aids critical thinking.

V-3 Early reading

MASON, JANA M., & AU, KATHRYN HU-PEI. Learning social context characteristics in prereading lessons. In James Flood (Ed.) *Promoting Reading Comprehension*. Newark, DE: International Reading Association, 1984, 179-203.

Examines the social interaction patterns that occur in two beginning reading lessons with a teacher and four preschool children, one of whom had more prereading skills than the other three. The daily instruction consisted of 15-minute lessons with letters, words, pictures, and story tasks. Children were called on one-by-one in the same order so they would learn how to take turns during the lesson. Transcripts of videotapes of the lesson were analyzed to determine turntaking strategies. Methods of discourse analysis were applied to the relationships among academic tasks, social interaction (turntaking structures), and participants' speech acts. Three turntaking structures were identified in the two lessons: 1) child-initiated remarks (CIR); 2) teacher question-child response-teacher evaluation (QRE); and 3) teacher direction-child listen (TDL). Of the seven lesson tasks, only one, drawing pictures that began with the letter of the day, was associated with CIR; the other tasks were conducted mainly in the QRE turntaking structure. Because each structure appeared to dictate particular rules for social interaction, the transcripts were inspected and remarks coded for violations of turntaking procedures. Overall, there were fewer violations in the second analyzed lesson than in the first. Analysis of the breakdown of speech acts according to turntaking structures indicated that children adapted their verbal interactions with the teacher to fit the turntaking structure imposed by the teacher. The child with the most prereading knowledge made a larger number of descriptive statements about tasks, issued more remarks about task-related activities, and found more opportunities to express knowledge. In addition, although all children were given equal opportunities to respond, the teacher more often verbally noted the knowledgeable child's responses by directing remarks or conducting interchanges with him. The researchers noted that the patterns and changes in interactions provide argument that social learning occurred; changes in teachers' directives indicated her awareness of these changes.

GRANT, JODI, & BROWN, CAROL. Precocious readers: A comparative study of early reading and non early reading kindergarten entrants. *Alberta Journal of Educational Research*, September 1986, *32*, 223-233.

Seeks to determine what percentage of first time English-speaking kindergarten entrants could be identified as early readers (ERS), and to identify differences between ERS and nonearly readers (NERS) with respect to their home background, home learning experiences, and book orientation skills. In September 1984, all first-time kindergarten entrants in the Saskatoon Public School System were screened using the Durkin Word Test and the Durrell Analysis of Reading Difficulty. Twenty-three children were identified as ERS. A random selection of 20 ERS and 20 NERS were matched by classroom. All pupils were then administered the Book Orientation Scale. Parent questionnaires were completed and returned by the caregivers of 16 ERS and 15 NERS. Interviews were conducted with the caregivers of four ERS and four NERS, all selected at random. These data were analyzed using either a t-test, chi-square, or statement of frequency of response. Extensive profiles were developed for the ERS and NERS interviewed. Results indicated that ERS represented 1.64% of the population of kindergarten entrants. Statistically significant difference ($p < .05$) were found between ERS and NERS on several demographic features, including the number of adults in the home and the educational and occupational level of the male caregivers. It is concluded that the home environments of ERS appeared to have been conducive to the development of skill in reading and to the development of strategies for learning in a wide range of areas.

SCHANZE, DONNA L.; GOETZ, ELIZABETH M.; & COLBURN, DAVID W. Memory reading: A preschool shared book experience. *Florida Reading Quarterly*, March 1988, *24*(3), 15-19.

Tests whether a modified version of the Shared Book Experience affected preschool children's memory reading of six original and unfamiliar stories as well as their ability to track words and lines. The effect of a picture as a cue on memory reading was also of interest. Fourteen four-year-old children were trained in story reading procedures that included modeling and unison reading as well as tracking and pointing out key words. The procedures were repeated daily for each story for one week. Children were individually tested before and after exposure to each of the stories, using a large story chart and title page with and without a picture. Testing included asking the child the title (initially without a picture clue), asking where to begin to read the story, where to read next, and then asking each child to read the story. Next, each child was asked to read the title again, this time cued by a picture. Finally, each child was asked to turn back and attempt to read the story a second time to determine whether the related picture cued the story. Memory reading as well as left-right-top/bottom tracking of words increased markedly. Results also indicated that there was a larger increase in memory reading when a picture cue was present as compared with no picture cue.

HALL, NIGEL; MAY, ELIZABETH; MOORES, JANET; SHEARER, JANETTE; & WILLIAMS, SUSAN. The literate home corner. In Peter Smith (Ed.) *Parents and Teachers Together.* Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 134-144.

Analyzes the results of turning a nursery school "home corner" for children into a literate environment by incorporating a wide range of home-related print (cookbooks, recipe pads, newspapers, telephone directories, calendars, planners, diaries and writing utensils). Three- and four-year-old nursery school children (number unspecified) were videotaped over a four-day period as they worked in the home center. Prior to the print infusion, teachers reported that the children's school literacy experiences included storytime, use of a library center, and labeling their own drawings and greeting cards. By contrast, the researchers recorded 290 literacy-related events ranging from brief bits of engagement to highly organized

and sustained play episodes in which literacy was embedded. The authors noted that the literacy behaviors demonstrated that children use writing in a whole range of meaning-laden ways when faced with writing utensils, space, and time in which to write. The researchers also inspected the tapes for the children's understandings of the purposes of literacy. They indicated that children demonstrate not only a knowledge of some of the purposes of print, but also knowledge of the social contexts in which these purposes were embedded. Finally, the written marks were inspected to discover what children knew about how literacy works. Children filled several hundred sheets of paper, envelopes, pages in diaries, books, pads, and cards. They typically used the correct terminology of writing, correctly distinguishing it from drawing. None of the children were writing in conventional ways, but most knew how literacy worked, using marks to convey meanings.

V-4 Readiness

ENTWISLE, DORIS R.; ALEXANDER, KARL L.; CADIGAN, DORIS.; & PALLAS, AARON M. Kindergarten experience: Cognitive effects or socialization? *American Educational Research Journal*, Fall 1987, *24*, 337-364.

Investigates whether the amount of children's prior kindergarten experience affects their affective and cognitive development in first grade as well as their teacher assigned marks. A secondary purpose of the study was to evaluate effects of kindergarten for different kinds of children. A stratified random sample of 683 Baltimore City first graders (51% black; 49% white) were compared on cognitive, affective, demographic, and experimental variables. Cognitive criteria were fall and spring verbal and quantitative CAT performances and first and fourth quarter marks in reading and math. Affective criteria were teachers' judgments of maturity, conduct marks, children's expectations for their performance, social standing among peers, and absences. Parents furnished demographic data on extent of preschool and kindergarten experience and their own expectations for performance. Children were interviewed individually during school hours for their expectations of their own performance. Teachers responded to questions about pupils' personal maturity and peer popularity. Other data (school marks, absences, and CAT scores) were obtained from school records. Over half of the sample had some form of preschool experience before kindergarten. Results indicated that more kindergarten experience leads to some early positive effects on cognitive status more noticeably for black children than for white. There were some year-end effects of more kindergarten on boys' reading marks, but no lasting effect on CAT scores. More kindergarten also led to fewer days' absence in first grade, but did not affect children's deportment, their personal maturity as estimated by their teachers, their expectations for their own performance, or their parents' expectations for them.

YARBOROUGH, BETTY; ESTES, THOMAS H.; & HARRISON, ELISE. A study of reading instruction in the kindergartens of Virginia. *Reading in Virginia*, Spring 1989, *14*,34-40.

Surveys kindergarten teachers in each school division in the state of Virginia to determine the nature and scope of reading instruction (beyond readiness) in kindergarten programs. Of 134 questionnaires distributed, 120 (90%) were returned. The resulting survey data, percentages of responses to 48 items and compilation of teacher comments, provided both a composite of kindergartens in the state and a general description of reading instruction at this level. Most school divisions (80.9%) had full-day classes, fewer than half had transitional first grades (35%), and only approximately 19% had junior kindergartens. Formal reading instruction (beyond readiness) was offered in 75% of the programs. Basal readers formed the basis of this instruction with 65.8% using the school-adopted basal for their instruction. In addition, basal readers appeared to have a greater impact on the goals of reading

instruction than the state standards. Of the 81.7% who reported having clearly defined goals for reading instruction, 59% indicated that their goals were derived in part from a basal reader; 45.8 reported basing their program goals on state standards. The importance attributed to achieving reading objectives in kindergarten was revealed by 77.5% of the responding divisions which indicated that pupils clearly not ready for reading at the end of the kindergarten year would repeat that level. Organizing for instruction in kindergarten appeared to differ from first grade in that grouping for instruction was reported by only 29.2% of the divisions. Three points of concern were identified by the authors: 1) 13.3% of those responding indicated no alternative provisions for children who entered kindergarten already reading; 2) 50% of the respondents used supplementary or free-standing phonics programs in addition to the basal readers; 3) there did not appear to be agreement among divisions regarding how to assess formally the reading development of children. A final issue resulting from the survey related to the question of balance in the kindergarten curriculum. Comments of teachers revealed lack of agreement about the relative importance of cognitive versus affective goals of kindergarten instruction. Some respondents applauded well-designed basal-oriented reading programs, while others decried the pressures resulting from formal reading programs that resulted in limited time for children's affective development.

FOWLER, WILLIAM, & HONEYCUTT, KATHRYN. An upbeat look at reading instruction in kindergarten. *Indiana Reading Quarterly*, Spring 1988, *20*, 13, 16-24.

Cites selected literature describing three major approaches to kindergarten reading: 1) the informal approach, stemming from play activity and language; 2) the formal approach, a teacher-directed organization, emphasizing specific learning objectives; and 3) the developmental approach, a combination of structured and informal instructional activities. The reviewers concluded that the developmental approach appears most productive.

HAYES, BERNARD L. Reading achievement trends of fourth grade students who experienced different approaches to kindergarten reading instructions. In George H. McNinch (Ed.) *Reading Teacher Education*. Fourth Yearbook of the American Reading Forum, 1984, 16-23.

Examines the reading achievement trends of children who started kindergarten in schools which used different approaches to beginning reading instruction. Subjects (n = 235) were fourth grade pupils from nine elementary schools in two school districts (A and B), who had remained in one school from kindergarten. District A used a moderately structured kindergarten reading program, while the program in District B was the *Distar Reading Series*. Scores of District A subjects on the ITBS and of District B subjects on the SAT were examined in relation to the influences of age, sex, pupil and school reading level, and aptitude on growth patterns. Significant differences between growth levels for each district are reported for vocabulary and comprehension scores. A common pattern of high early achievement followed by a regression to the mean is noted. it is concluded that other factors than kindergarten reading programs are more important in relation to reading achievement scores over time.

V-5 Teaching reading – primary grades

WEISSBERG, ROBERT. A teacher's questioning style in three first grade reading groups. *New Mexico Journal of Reading*, Winter 1988, *8*(2), 7-10.

Examines the questioning style of one first grade teacher to determine to what extent her questioning differed as a function of the reading proficiency of reading groups. The 20 children in her classroom, six of whom were native Spanish speakers, were assigned to four ability groups composed of from two to seven children. Four basal reading sessions were

observed; one session was audiotaped and provided the data for the analysis. For the three groups in which connected reading occurred, the teacher's questions were classified as low level if they required display of factual knowledge which the teacher already possessed (display and closed referential questions). Open referential questions calling for extended pupil responses were categorized as high level questions. Teacher questions as a percentage of total teacher talk were also calculated. Results indicated that the teacher used many more low-level than high-level questions, but the percentage of high-level questions increased with the ability level of the groups. In all three groups, questions accounted for less than half of all teacher talk-turns. In addition, display questions did not vary greatly but tended to increase with ability groups.

GERSTEN, RUSSELL, & KEATING, THOMAS. Long-term benefits from direct instruction. *Educational Leadership*, March 1987, *44*(6), 28-31.

Presents findings of a longitudinal follow-up study of children who had been a part of Project Follow Through, a large U.S. Office of Education experiment to determine the effectiveness of innovative programs for at-risk pupils. To investigate whether direct instruction in the primary grades had an effect on high school careers, files were located and comparison schools with equivalent ethnicity and families on welfare were identified in four communities. Data were compared for Follow Through pupils whose direct instruction began in kindergarten and those for whom it began in first grade. In one community, for those whose direct instruction began in kindergarten, the average reading score in the ninth grade on the CAT was at the 40th percentile, or almost grade level, while comparison students were at the 26th percentile. In language, they were above grade level: 59th percentile compared with 39th for the comparison group. For students who received direct instruction starting in first grade, the effects were more modest, but still significant in both reading and mathematics. In a second community, direct instruction children demonstrated significantly fewer attendance problems and had significantly fewer retentions. The direct instruction group scored higher in the ninth grade SRA achievement tests and more were accepted into college, but neither of these effects was significant. In a section of New York City, the percentage graduating from high school and accepted into colleges significantly favored the direct instruction students ($p < .01$). That group also had significantly fewer drop-outs. In a fourth community, direct instruction students repeated grades less often, and more successfully completed high school, but no differences were found in academic achievement. The researchers noted that the children received no direct instruction in kindergarten, and that three years of intervention may not have been sufficient to produce long-term gains.

WILLIAMS, JOANNA P. The case for explicit decoding instruction. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 206-213.

Reviews selected research supporting explicit decoding instruction by presenting a brief historical overview of the related research, detailing researched-based guidelines for phonics instruction, identifying support for decoding instruction emanating from the research of classroom management, and considering issues in designing decoding programs. Specific program concerns included timing of instruction, method (analytic vs. synthetic), selection of correspondences, morphemic analysis, and exceptions to phonics rules. General conclusions suggested that the empirical evidence for explicit decoding instruction was very strong. The author concluded that decoding instruction must be promoted to ensure adequate comprehensive reading programs.

GASKINS, IRENE W.; DOWNER, MAJORIE A.; ANDERSON, RICHARD C.; CUNNINGHAM, PATRICIA M.; GASKINS, ROBERT W.; & SCHOMMER, MARLENE. A

metacognitive approach to phonics: Using what you know to decode what you don't. *Remedial and Special Education*, January-February 1988, *9*(1), 36-41, 66.

Describes a research and development program designed to teach decoding to poor readers of average and above intelligence in grades one through eight. Goals of the program include teaching pupils to use known words to decode unknown words, to discriminate structual components of words, to see how language is organized, to be flexible in pronouncing words and to demonstrate automaticity in decoding – all as foundation blocks for the meaning-making process. To evaluate the program, two tests of decoding competence were administered each spring to elementary pupils who were poor readers with average or above intelligence. One test contained regular pseudowords while the other was comprised of "transfer" words, or words not included in the instructional program. After factoring out age, intelligence, sex, and ratings by previous teachers of the number and severity of emotional blocks to learning, it was found that children who received instruction showed a statistically significant increase on the pseudoword test and a nearly significant increase on the transfer word test. Scores on both tests were strongly related to the number of weeks pupils had received decoding instruction, and gains were related to the number of minutes per week of instruction. There were nonsignificant increases on three achievement tests when the same variables were factored out. Results indicated that year-to-year gains on the three achievement tests were related to progress on the two-word identification tests.

GUNDERSON, LEE, & SHAPIRO, JON. Some findings on whole language instruction. *Reading-Canada-Lecture*, Spring 1987, *5*, 22-26.

Examines and compares the vocabulary generated by pupils' writing their own material and the vocabulary encountered in the basal reader. Two grade 1 classrooms of 52 children in British Columbia were selected for this study. Both classrooms were described as having whole language instruction. Children's writing produced over a year's time was collected and copied. These products included: (1) log books; (2) draft books; (3) cooperative stories written by the whole class; and (4) individual skill-related assignments dealing with phonics. Pupils' writing in draft and log books was analyzed in order to make a comparison between their vocabulary and the vocabulary used in a typical basal reading series. Both log and draft books were transcribed, yielding 73,764 separate letter strings. Within this corpus of words there were 9,857 separate word types, 74 unknowns and 3,402 misspellings. A rank order listing of the child generated words was made to identify both high and low frequency vocabulary words. The vocabulary in the The Ginn 720 Reading Series Levels 2-5 was also rank ordered in terms of frequency. These lists were then compared. An analysis was also made of children's spelling errors. Results indicated three findings: first, the pupils generated nearly 18 times the number of words they would be exposed to in the first five levels of Ginn 720 (9,857 versus 549 word types). Second, the high frequency vocabulary is remarkably similar in both the pupil generated writing and the basal reader. Third, children's vocabulary differs considerably from basal vocabulary when the low frequency items are analyzed; the children's low frequency items appeared more current and more reflective of their interests.

SIPPOLA, ARNE E. The effects of three reading instruction techniques on the comprehension and word recognition of first graders grouped by ability. *Reading Psychology*, 1988, 9(1), 17-32.

Compares the reading performance of low-, middle-, and high-ability grade one pupils assigned to three different treatment groups. Four classrooms of children (n = 90) participated in the study. Children were placed into low, middle, or high ability groups; each pupil from a given ability level was randomly assigned to one of three treatment groups: (1) Group 1 – listen-alone, (2) Group 2 – listen-read, and (3) Group 3 – control. Each teacher followed the normal instructional reading program with treatment procedures employed prior to the

silent reading of the story. Experimental procedures were followed between 45 and 60 minutes per week for six weeks. The ITBS Vocabulary and Comprehension subtests were administered. For low and middle ability groups, the listen-read treatment was significantly better than the other two treatments for both vocabulary and comprehension on the Iowa. No differences were found between listen-read and listen-alone treatments in vocabulary with high ability pupils, and both treatments were significantly better than the control (read-alone) treatment.

VINOGRAD-BAUSELL, CAROLE R., & BAUSELL, R. BARKER. Home teaching of word recognition skills. *Journal of Research and Development in Education*, Spring 1987, *20*(3), 57-65.

Investigates the effects of involving parents in the teaching of word recognition skills via a self-explanatory, home tutoring program requiring no direct educator-parent contact. The parents of 136 first grade children in one Delaware school district volunteered to participate in the program and were randomly assigned to experimental (67) and control (69) conditions. Parents in the experimental condition were directed to teach 20 sight words to their children over a two-week period. Directions for parents were contained on a two-page set of instructions detailing a basic teaching strategy. Procedures included suggestions for reviewing and quizzing the children. Control subjects received no home instruction. Pre- and posttests of the 20 target words were administered individually to both experimental and control group pupils. To determine if learning occurred as a function of the home teaching experience, a two way ANCOVA was performed using pretest scores as a covariate. Results confirmed that children in the experimental group were able to recognize significantly more words than their control counterparts.

HEWISON, JENNY. The long term effectiveness of parental involvement in reading: A follow-up to the Haringey Reading Project. *British Journal of Educational Psychology*, June 1988, *58*, 184-190.

Evaluates the long term effects of a two-year educational intervention which increased the amount of parental help given to children at the time they were six to eight years old and learning to read. Reported previously, the results of the original study confirmed that 137 children who had received parental assistance were reading better than comparable children who had acted as controls. No such improvement was apparent in 111 children given extra reading help, on a small group basis, from a supplementary teacher in school. In this study, conducted three years following the intervention, the children were tested on the *London Reading Test*, given to all final year junior school pupils. Data for 110 parent-involvement children (80.3% of the original sample) and 90 school-help children (81% of the original sample) were secured and analyzed. Statistical analyses revealed that the beneficial effects on reading performance of the parental assistance program were still clearly apparent three years subsequent to the intervention. Again, no clear pattern of benefit was detected in the children who had received extra help from a teacher at school.

DOWHOWER, SARAH L., & SPEIDEL, GISELA E. Let's teach unskilled readers like skilled readers: A closer look at meaning-based instruction. *Reading Research and Instruction*, Winter 1989, *28*, 50-60.

Studies audiotapes of four lessons taught to a low group of second grade readers to identify and describe instructional elements of a comprehension program that had effected positive gains for these low achieving readers. These findings resulted from a larger study of the Kamehameha Reading Program. The group included three children who were the lowest readers in two second grade classrooms in a rural public school. They participated in the program for 29 weeks and received direct teacher instruction one or two times daily for 20

minutes. Transcripts of four consecutive lessons, totaling 69 minutes of instruction, formed the data base. Analyses focused on content and discourse that would reveal comprehension emphasis, interactions that encouraged comprehension, and indicators of an active search for meaning on the children's part. Lesson events and interactions were categorized and percentages were determined. Six components of instruction were identified consistently: a) contextual-based lessons, b) coherent text sequences, c) emphasis on elaborative comprehension, d) minimal skills instruction, e) discussion-oriented, teacher-responsive lessons, and f) active engagement on the children's part in searching for meaning.

HAMILTON, DOROTHY. Working with parents: The key to learning. *Support for Learning*, August 1987, *2*(3), 37-42.

Describers a parent-teacher cooperative effort to ensure child learning titled Parent, Children and Teacher (PACT). In general, PACT schools send books selected by children home with them. Accompanying the books are traveling record cards between home and family permitting a dialogue on simple record keeping forms. In addition, schools make booklets for parents with suggestions about home reading, emphasizing enjoyment, relaxation, and a non-threatening atmosphere for sharing and talking about a story, for letting children make sensible guesses about words, and so on. Messages to parents are printed in many languages, often with graphics. For parents who cannot read, there are sets of tapes to accompany the booklets. Reading is one part of the parent-school cooperation but only a part. While no data are presented, implications are drawn and other studies are cited with evidence for the effect of parent involvement for children with reading and learning difficulties.

LARKING, LEWIS. Repeated reading to young children. *Australian Journal of Reading*, March 1988, *11*, 36-41.

Investigates the uses of a modified Neurological Impress Method with first-grade Australian children. Six classes of first graders in their fourth term of the year were read a story from a second grade reading book six times over a two week period. In the week prior to and following the repeated readings, pupils were checked for recognition of 50 words randomly selected from the story. As they were read the story, children followed along in their own book. The Daniels and Diak *Standard Reading Test* was also administered as a pretest. Results are reported from five of the six classes. Improvement in posttest recognition of vocabulary words in isolation ranged from 11.7% to 19%.

FREEMAN, RUTH, & FREEMAN, GERALD G. Reading acquisition: A comparison of four approaches to reading instruction. *Reading Psychology*, October-December 1987, *8*, 257-272.

Compares the effects of different approaches to reading instruction used in four first grade classrooms of a suburban elementary school on word recognition and reading comprehension. Individual teacher interviews established the differences in program emphases. Group A used the basal reader program; Group B, the basal reader and an additional phonics program; Group C, the basal reader and the language experience approach; Group D, the language experience approach and a wide range of supplementary readers and trade books. All groups participated in supportive language arts activities. Nine randomly selected subjects from each class participated—three from each high, middle, and low reading group. Both the graded words lists and the passages from Silvaroli's *Informal Reading Inventory* were administered and scored. The four approaches were compared using five categories of test results: word recognition in isolation, the Independent, Instructional, and Frustrational Level scores derived from the scores in word recognition in context and comprehension, and a comparison of the discrepancy between the scores in word recognition in context, and comprehension. Results indicated that Groups A and C had the highest word recognition scores. An analysis of scores at the Independent, Instructional and Frustrational Reading Levels

showed that Group D scored at higher levels than the other three groups. When these scores were combined, Group D and Group C were shown to have more children whose instructional reading level was above their present placement. A comparison of the number of times the word recognition and reading comprehension scores were discrepant indicated that all groups showed favorable percentages in the direction of reading comprehension, with Group D having no instances of a word recognition score higher than a reading comprehension score. Several trends were drawn from the data and reported.

BARKER, NEVA. "Sing a song to reading." *Oklahoma Reader,* Spring 1989, *24*(3), 13-14.

Explores using songs with words presented on charts on the vocabulary acquisition of two heterogeneous classrooms of 38 second grade pupils. Songs of high interest were chosen; all words were written on chart paper; children sang the songs, following the words on the chart paper as they did so, daily for two months. Performance was assessed on pre- and posttests of 66 words judged to be advanced in difficulty for the second grade reading level. Posttests were given both at the end of the first and second months of the study. Mean number of words identified on each posttest was calculated for the two groups. Increases were observed for both classrooms.

V-6 Teaching reading – grades 4 to 8

BARR, REBECCA, & SADOW, MARILYN W. Influence of basal programs on fourth-grade reading instruction. *Reading Research Quarterly,* Winter 1989, *24*, 44-71.

Investigates how seven fourth-grade teachers from two school districts used their basal reading programs. Of concern were the characteristics of the programs and their influence on instruction; i.e., the nature of the basal programs; the proportion of material actually read by the pupils; the balance between contextual reading and skill activities, and the time allotted to each during instruction; and the extent to which teachers followed the recommendations in the guides for pre- and postreading discussions of basal selections. The study was conducted over one school year. Data collection included content analyses of the basal programs, observations of reading instruction, and interviews with the teachers. Results indicated that the two basal programs differed in organizational complexity, but were similar in content. The design of the programs did influence the extent to which materials were assigned and read. Both programs included many skill activities, and instruction showed a similar emphasis. Finally, teachers differed in how much they relied on pre- and postreading recommendations in the teachers' guide.

BURKE, JOY PATRICIA; BOHLMEYER, ELAINE MORTON; & MIDKIFF, ROBERT M. The role of reading instructional method in academic climate and achievement: A field study. *Educational and Psychological Research,* Summer 1988, *8*, 231-244.

Examines the effects of two alternative methods of reading instruction, the Spalding Reading Method and the Ginn Basal Reading Method, on fourth grade pupils' achievement in reading and spelling and on their perceptions of academic climate. A second focus was to determine whether pupils' perceptions of academic climate would predict their reading and spelling achievement. All fourth graders (179) from three schools in a large suburban school district in the Southwest were included. Four intact classrooms from one school utilizing the Spalding program comprised the experimental group of 80 pupils. The control group, 99 pupils, included four classrooms from two other schools using the Ginn program. All pupils received 50 minutes of reading instruction daily. Reading and spelling achievement were measured on the CAT. Perceptions of academic climate were collected using a subset of 38 items from the *Student Questionnaire of School Social Climate.* MANOVA techniques revealed no

significant differences in reading and spelling achievement for pupils instructed by the alternative methods. Differences in reading vocabulary scores between the two schools using the Ginn method were observed. Relative to pupils' perceptions of academic climate, MANOVA results indicated that pupils in the Ginn program had higher perceptions than those in the Spalding program. Regression analyses further showed that pupils' perceptions of some aspects of academic climate were significant predictors of achievement. Analyses of differences for high and low ability readers revealed that both school and classroom had significant effects on achievement for the high ability group, but not for the low ability group.

CARVER, RONALD P. Teaching rapid reading in the intermediate grades: Helpful or harmful? *Reading Research and Instruction*, Winter 1987, *26*, 65-76.

Reviews the literature on teaching rapid reading to elementary school children in an effort to determine if such instruction aids or harms comprehension. The author concludes that the research can be interpreted as indicating that training pupils to read rapidly will result in a loss of comprehension. Further, the research findings support the proposition that rapid reading is skimming.

KONOPAK, BONNIE C., & WILLIAMS, NANCY L. Using the keyword method to help young readers learn content material. *Reading Teacher*, March 1988, *41*, 682-687.

Discusses the keyword method, the use of mental pictures as a mnemonic strategy to aid learning. The authors cite research that supports its use and present classroom applications. Guidelines for effective mental images for keyword pictures are offered: the pictures are directly related to the content, transform it in a meaningful way, and are familiar to the student. Steps in instruction are explained and illustrated.

STEVENS, ROBERT J.; MADDEN, NANCY A.; SLAVIN, ROBERT E.; & FARNISH, ANNA MARIE. Cooperative integrated reading and composition: Two field experiments. *Reading Research Quarterly*, Fall 1987, *22*, 433-454.

Reports two studies designed to evaluate a comprehensive cooperative learning approach to elementary reading and writing instruction, titled Cooperative Integrated Reading and Composition (CIRC). Third- and fourth-graders in a suburban district worked in heterogeneous learning teams for all reading, language, and writing activities. Following direct instruction in reading with basal stories, pupils worked in pairs on partner reading, decoding, story structure, prediction, and story summary activities. They also received direct instruction on comprehension and metacomprehension activities, followed by team practice. In writing and language arts, children used a process approach to writing, and participated in peer conferences during planning, revising, and editing stages of the process. They also received direct instruction followed by team practice on language mechanics and language expression activities which were integrated with writing activities. Practice in teams followed all direct instruction. In both studies experimental and control classes were matched on the basis of the CAT Total Reading and Language scores. The control teachers continued using their traditional methods and curriculum materials. Quantitative measures included pre- and posttests of achievement and probed writing samples. Study 1 was conducted over a 12-week period with 461 children in 21 classes. Study 2 was an extension and replication of the first, lasting 24 weeks and involving 450 children in 22 classes representing a wider range of ethnic and socioeconomic backgrounds. Informal reading inventories were used as an additional dependent measure in Study 2. Results of the two studies indicated significant effects in favor of the CIRC groups on standardized measures of reading comprehension, reading vocabulary, language mechanics, language expression, and spelling. CIRC children also performed better on writing samples and oral reading as measured by the informal reading inventories.

WISHART, ELIZABETH. Textual cohesion and effective reading: A teaching strategy. *Reading*, April 1987, *21*, 30-42.

Investigates the effects of instruction incorporating questioning, discussion, and cloze techniques to improve pupils' abilities to interpret textual cohesion. Thirty six 10-year-old pupils who belonged to minority ethnic groups participated in this study. All subjects were considered good readers by their teachers, and instruction was conducted for six weeks. Selections represented a range of material and varying levels of difficulty. Teaching strategies included introduction of the story, silent reading, discussion and questions focused on cohesive ties, and pupils' summary statements of story content. These statements were graded. Cloze activities were also applied. Discussions were taped for subsequent review by the teachers. A cloze exercise from a story not included in the study, but familiar to the pupils, was administered as a pre- and posttest of ability with cohesive ties. Analysis of performance on this measure revealed a significant gain score of 6.55%. In addition to determining overall effects, performance on the six story assessments was also examined. This revealed that conjunction was more difficult than reference ties for these readers. It also appeared that effective comprehension, as revealed by summary statements, was a result of both ability to understand the linguistic features and familiarity with content.

VICKERY, KAREN S.; REYNOLDS, VALARIE A.; & COCHRAN, SAMUEL W. Multisensory teaching approach for reading, spelling, and handwriting, Orton-Gillingham based curriculum, in a public school setting. *Annals of Dyslexia*, 1987, *37*, 189-200.

Investigates the effects of using a multisensory approach for reading and spelling instruction for both remedial and nonremedial pupils in a public school setting. The program was a mastery learning model providing hierarchically planned skills evaluated by criterion referenced tests. The study was conducted over a four year period and included 14 teachers and 426 children, 282 remedial and 144 nonremedial, in grades 3-6. Remedial pupils included those who qualified for Chapter I or Special Education/LD programs; all other children were classified as nonremedial. Two teachers received extensive training; others were prepared through workshops. Program effects were massed on the CAT administered each spring of the study. Results indicated that performance in reading and spelling improved over baseline scores for both remedial and nonremedial pupils following initiation of the multisensory approach. Additionally, there was a tendency for the CAT mean scores to increase corresponding to the number of years children had been taught by the multisensory program. These trends were not as evident for the classes in Grade 4 as they were for the classes in Grades 3, 5, and 6.

DANIELS, ROBERTA R.; KASNIC, MICHAEL J.; & MCCLUSKEY, DALE. Individualized instruction utilizing the structure of intellect and language experience in reading programs. *Reading Improvement*, Fall 1988, *25*, 237-241.

Investigates gains on the *Structure of the Intellect-Learning Abilities* (SOI-LA) test as a result of individualized instruction in either the Structure of the Intellect (SOL) or Language Experience in Reading (LEIR) programs. The SOI-LA was used as a pre- and posttest of five operations: Cognition, Memory, Evaluation, Convergent Production, Divergent Production. Six SOI-LA tasks considered to relate to reading on the basis of previous research included: Visual Closure, Visual Discrimination, Judging Similarity of Concepts, Visual Attending and Concentration, and Visual Sequencing. Forty seven pupils enrolled in grades 3, 4, and 5 at a rural midwestern laboratory school were administered the test and assigned randomly to experimental and control groups. The experimental group consisted of 24 children who received individualized SOI instruction addressing needs identified on the pretest. They

attended four 30-minute periods per week for 12 weeks. The control group, 23 children, receive LEIR instruction in the regular classroom with the regular teacher. Analyses of post-test results indicated that pupils in the SOI group made significant gains in all five operations. Between group differences were found in only one area; the control group scored significantly higher on the memory operation. There were no differences between the experimental and control groups on the six tasks related to reading.

JENKINS, JOSEPH R.; MATLOCK, BARBARA; & SLOCUM, TIMOTHY A. Two approaches to vocabulary instruction: The teaching of individual word meanings and practice in deriving word meaning from context. *Reading Research Quarterly*, Spring 1989, *24*, 215-235.

Examines two approaches to vocabulary instruction and assesses the effects of the two approaches both on the learning of individual words and on pupils' ability to derive word meaning from context. One approach emphasized direct teaching of individual meanngs for a set of unfamiliar words; the second strategy emphasized teaching pupils to derive word meaning from sentence context. Each strategy was implemented with low, medium, and high amounts of practice, allowing comparisons across levels of implementation as well as between treatments. Subjects were 135 fifth-grade pupils from six classrooms in a suburban school district. No significant differences in vocabulary achievement scores (CAT) were apparent for subjects at the initiation of the study. Lists of target words were selected from fifth grade basal readers and refined following a pilot study. Vocabulary performance was assessed on researcher-designed tests assessing both pupils' mastery of the specific word meanings taught and their ability to derive meanings from context. Results showed first, that instruction in individual meanings was effective, and that training in deriving meanings did improve pupils' ability to use context. Second, more practice on individual meanings led to higher levels of mastery. Third, instruction in deriving meaning was effective with medium and high amounts of practice, but not with less practice. The authors compared the two approaches to previous studies of economical and more time-consuming forms of vocabulary instruction and supported the potential of these two approaches for increasing children's vocabulary learning in the classroom.

POWELL, JACK V.; WISENBAKER, JOSEPH; & CONNOR, ROBERT. Effects of intergenerational tutoring and related variables on reading and mathematics achievement of low socioeconomic children. *Journal of Experimental Education*, Summer 1987, *55*, 206-211.

Evaluates the effects of tutoring provided by multi-age tutors on the reading and mathematics achievement of low socioeconomic children. The investigation covered a three-year period in which 256 children in grades 3 through 8 received two one-hour tutoring sessions per week under the tutelage of trained volunteers. Tutorial experiences occurred after regular school hours and focused primarily on the reading and mathematics areas. Tutors were an intergenerational group of volunteers from diverse educational backgrounds and levels: 30 retired teachers, 120 retirees from other fields, 126 undergraduate and graduate college students, 23 housewives, and one 12-year-old youth. Program effects were assessed using reading and mathematics achievement scores on the ITBS and school absenteeism records. These statistics were available for only a moderate number of tutees participating in the last two years of the study. Authors reported that the tutorial program generally provided beneficial assistance over the three years. Participants during the last year of study showed greater average gains in reading and mathematics achievement and more favorable changes in absenteeism than nonparticipating counterparts. These differences, however, were not statistically significant.

GRAY, MARY ANN. A frill that works: Creative dramatics in the basal reading lesson. *Reading Horizons*, October 1987, *28*, 5-11.

Compares reading comprehension posttest scores for pupils given opportunity to dramatically reenact stories and pupils who did not engage in creative drama. A sixth grade class of 21 children reading at grade level was randomly divided into two groups. On Day 1, both groups read silently the next basal selection. On Day 2, the control group under the direction of the student teacher went to the library and discussed the story for 50 minutes. The experimental group prepared a dramatic presentation based on the story for 50 minutes. On Day 3, all were posttested with a five-question inferential comprehension test based on the short story. The researcher concluded that children who participated in dramatics more competently answered inferential questions on a comprehension test. On all questions, either eight or nine of the pupils answered correctly. In the control group, either seven or eight of the pupils answered all questions correctly

ENFIELD, MARION, & BEAN, THOMAS W. Teaching students to read and study history text effectively. *California Reader*, January/February 1989, *22*(2), 10-15.

Compares two forms of metacognitive reading strategies, outlining and graphic organizers, on the achievement of eighth graders studying American history. The study was conducted over a two-month period with two classes of students taught the same content by the same teacher. Classes were of similar size, 18 and 20 students, and ethnic composition; however, mainstreamed ESL children in the first class were limited in the use of English. Analysis of performance on the GMRT indicated that the mean performance of pupils in Class 1, an average achievement level, was significantly lower than the mean performance of pupils in Class 2 who scored average to above average. Children were randomly assigned by class to one of two instructional conditions, outlining or graphic organizer construction. The study was conducted in two phases. In the first phase traditional outlining was applied by Class 1 and graphic organizers were utilized by Class 2. Following completion of the chapter reading, discussion, and strategy work (outlining or construction of graphic organizers), both groups completed a chapter test consisting of literal and higher order questions designed to assess content learning. ANCOVA procedures, using GMRT scores as the covariate, showed no significant main effect for instructional treatment. Both forms of metacognitive instruction were effective. To test the reliability of this finding, the second phase of the study introduced a new chapter and each class applied the alternative strategy. Learning was assessed on a second chapter test. As before, no significant differences for instructional treatment were revealed by ANCOVA testing. It was also observed that pupils in Class 1, who were significantly lower than those in Class 2 in reading achievement and English, showed improved recall of details manifested in more lengthy responses to essay items. It was therefore suggested that, even though outlining and graphic organizers are both useful metacognitive strategies, a graphic display of content seemed beneficial for the least able pupils.

SMITH, BRIGID. Using volunteer helpers as scribes. In Peter Smith (Ed.) *Parents and Teachers Together*. Proceedings of the Twenty-Third Annual Conference of the UKRA, 1987, 94-102.

Describes the use of the language-experience approach with five 11-year-old children. Effects were judged by changes in the dictations themselves (their sentence complexity, and structure) as well as through a miscue analysis of pupils reading their own stories. All children were interviewed prior to treatment for their insights into the strategies they used when they had difficulty reading. Five adult volunteer scribes were trained in nondirective language experience techniques. Eight sessions of one hour and 20 minutes were tape-recorded for each child. There were no clear indications of shift in dependence on one cueing

system to another during the sessions; however, the pupils offered more self-corrections over the course of the session. The researchers noted that children used syntactical, semantic and grapho-phonemic clues that were semantically acceptable after training.

V-7 Teaching reading—high school

BARR, REBECCA. Classroom interaction and curricular content. In David Bloome (Ed.) *Literacy and Schooling*. Norwood, NJ: Ablex Publishing Corporation, 1987, 150-168.

Considers alternative ways in which curricular materials have a bearing on classroom interaction. The author examines the linkages between curricular content and instruction in theoretical terms, considering curricular materials as one of the central components of instruction. In the second section, the theoretical framework is used to examine the influence of curricular materials on instruction in a high school English class. The case study demonstrates four distinguishable ways in which curricular materials have a bearing on instructional interaction and learning: 1) as an organizing rubric; 2) as an influence on class interaction; 3) as an integral component of instructional interaction; and 4) as a direct influence on learning.

ALVERMANN, DONNA E., & SWAFFORD, JEANNE. Do content area strategies have a research base? *Journal of Reading*, February 1989, *32*, 388-394.

Examines the extent of the research base for both: a) the comprehension and vocabulary strategies recommended in content reading methods texts, and b) the content reading strategies that teachers report using most frequently. The research base was established by identifying effective strategies resulting from studies of content area reading conducted with students in grades 7-12 and published through 1986. Effectiveness was defined in terms of statistical significance. Content analyses of six methods texts, published since 1978, were completed, and teachers' practices were determined through review of previously reported survey data. Findings revealed a broad array of content reading strategies recommended, supported by research evidence, and applied by teachers. Strategies were found to vary in their degree of effectiveness with no clear pattern of one strategy being more effective than another for students of different reading ability levels. Authors noted that the research base for content strategies was uneven. The limited empirical testing of various strategies resulted in identification of future research needs.

KNOTT, GLADYS. Secondary school contexts of reading and writing instruction. *Theory into Practice*, Spring 1986, *25*, 77-83.

Reviews briefly literacy development research among secondary students and suggests a research-based framework for facilitating literacy with secondary students.

ALEXANDER, PATRICIA A.; WHITE, C. STEPHEN; HAENSLY, PATRICIA A.; & CRIMMINS-JEANES, MARY. Training analogical reasoning. *American Educational Research Journal*, Fall 1987, *24*, 387-404.

Examines the effects of componential analogy training in two separate experiments. The analogy training was organized in two phases: a short-term intensive phase, and an extended period of intermittent instruction. In Experiment 1, 36 fourth graders of average reading ability were divided into training and nontraining groups. The training group received explicit instruction and practice in the component processes of analogies in an intensive training phase followed by a six-week intermittent training phase. Results indicated that training did lead to significantly higher scores on posttest measures conducted after the initial training and were sustained during the six-week maintenance training. There was no significant effect

on pupils' inferential comprehension. In Experiment 2, direct effects and near transfer of training were examined. Subjects in Experiment 2 were gifted 8th graders and average ability 10th graders. Results demonstrated both significant direct effects on students' performance of verbal analogies of the form A:B::C:? and near transfer to verbal analogies of the form A:B::?:?.

V-8 Teaching reading—college and adult

SIMPSON, MICHELE L., & HYND, CYNTHIA. An initial validation of a strategy for studying narrative text. *Journal of College Reading and Learning*, 1988, *21*, 41-47.

Attempts to validate a study strategy developed for college readers to apply to narrative text. The focus was on determining whether students who were trained to annotate and underline key information in narrative text would perform better on objective and essay exams than students who wrote metacognitive journal entries. Subjects were 46 freshmen enrolled in four sections of a developmental studies course. There were no statistically significant differences between the four sections on the Basic Skills Exam, a state required reading test for college freshmen. The classes were randomly assigned to treatments resulting in two annotation groups and two metacognitive journal groups. Training was conducted for a period of three weeks. All subjects were pre- and posttested on 4,000 word narrative chapters. Pretesting involved both a 25-item multiple-choice test with literal, inferential, and critical level questions, and an essay question based on comparing and contrasting two characters. Prior to completing comparable subtests in the posttest, students were asked to annotate the chapter or to write a journal entry in order to prepare for the exam. Essay exams were scored by identifying idea units and scoring them qualitatively. Annotations were independently scored using a rating worksheet that tallied the number of annotations, kind of annotations, and level of thinking. Journal entries were independently scored using a 5-point Likert scale with descriptors for each of the separate areas. Data analyses indicated a significant treatment effect favoring the annotation groups on the combined multiple-choice and essay score; a significant effect favoring the annotation groups on the multiple-choice exam; and a trend, but not a significant effect, for the annotation groups on the essay exam.

SIMPSON, MICHELE L.; HAYES, CHRISTOPHER G.; STAHL, NORMAN; CONNOR, ROBERT T.; & WEAVER, DERA. An initial validation of a study strategy system. *Journal of Reading Behavior*, 1988, *20*(2), 149-180.

Investigates the effectiveness of an integrated study strategy system that used self-assigned student writing as a means of learning psychology content. Sixty-five college freshmen from four sections of a reading-study strategy course were trained over a three week period to use either a question-answer recitation format or PORPE (Predict, Organize, Rehearse, Practice, and Evaluate). All subjects took an initial and delayed multiple-choice test and an essay exam. Essays were scored for content, organization, and cohesion. SAT verbal scores were used as a covariate in the analysis. ANCOVA results indicated that students trained in PORPE scored significantly higher than question-answer students on both the recall and recognition measures. In addition, the PORPE essay answers were significantly more organized and more cohesive than the essays of students trained in the question-answer recitation format.

CHASTAIN, GARVIN, & THURBER, STEVEN. The SQ3R technique enhances comprehension of an introductory psychology textbook. *Reading Improvement*, Spring 1989, *26*, 94-96.

Assesses the effectiveness of the SQ3R technique applied to the study of an introductory psychology textbook. Subjects were 24 general psychology students who participated in

the research project for extra credit. SQ3R procedures were introduced in materials accompanying the psychology text (Student Self-Tutor) and were reinforced in one supervised practice session. Participants were assigned to one of two study groups in a counterbalanced withdrawal design and equated on scores of the Similarities subtest of the WAIS-R. Each group was assigned the same three psychology chapters to study. One group applied the SQ3R technique to the first and third chapters read and used personal strategies on the second. The other group applied personal study strategies to the first and third chapters and read the second using the SQ3R technique. Learning was assessed on content tests administered following the study of each chapter. In addition to the content tests, each subject completed a self-report anxiety scale designed to evaluate personal interest in each chapter and motivation to study, and individual's study time for each chapter was recorded. Results confirmed that performance on the tests for each chapter was significantly better when SQ3R was used. Differences in study time, interest and motivation, practice, and anxiety were eliminated as sources of the treatment effects.

STRAW, STANLEY, B., & RUDYK, BARBARA P. The impact of a reading/study skills program on student success in vocational programs at the community college level. *Reading-Canada-Lecture*, Spring 1989, *7*, 28-39.

Examines the effects of a reading/study skills program related directly to course content on the drop-out rate and semester GPAs of vocational students at the community college level. Participants were all students enrolled in both the auto mechanics program or the heavy duty mechanics program at a community college located in rural Canada. The two programs were populated by students who had dropped out of high school and were receiving some type of unemployment or welfare benefits. Treatment effects were assessed by comparing performance of the current group (treatment) with the performance of students enrolled in the program from the two school years immediately preceding the treatment year. Data were collected for each of the two groups and compared on three indicators of success: drop-out rate, first term GPA, and second term GPA. Results confirmed that the drop-out rate was significantly lower for the treatment group: 3 out of 20 (15%) compared to 20 out of 47 (42.5%) for the control group. For both auto mechanics students and heavy duty mechanics, differences in first term GPAs between the treatment and control groups were not observed. Analysis of second term GPAs revealed significant differences for the auto mechanics students favoring the treatment group; no significant differences were indicated for the heavy duty mechanics. It was noted that the students who profited from the program (auto mechanics students) were high risk, more likely to withdraw from the program than finish, and more likely to perform poorly than their counterparts in the heavy duty program. The subjects who did not appear to profit significantly were at much less risk and were perceived as more highly motivated and confident.

DRAHEIM, MARILYN E. Directed reading-thinking activity, conceptual mapping, and underlining: Their effects on expository text recall in a writing task. *Journal of College Reading and Learning*, 1987, *20*, 78-86.

Investigates the effects of four instructional approaches to reading informational expository essays on high and low aptitude college students' recall of main ideas and high subordinate ideas when they write a summary-analysis essay based on an assigned topic. The four instructional approaches were: (1) Directed Reading-Thinking Activity (DR-TA), an interactive reading approach that uses group inquiry; (2) mapping, a reading recall strategy; (3) a combination of DR-TA and mapping; and (4) reading for main ideas and underlining them in text (control condition). Forty-eight college freshmen enrolled in a developmental writing course were randomly assigned to four sections of the course. Over a four-and-one-half week period, all students completed three reading and writing assignments. The third assignment,

a 50-minute in-class essay, completed after training, provided the data for analysis. Students in Groups 1 and 3 also made conceptual maps. The study revealed that for the low-aptitude developmental group, the instruction given in the control group (Group 4) and in the DR-TA and mapping group (Group 3) had more effect on recall of main ideas than did mapping or DR-TA instruction alone. In addition, DR-TA instruction had a greater effect on recall of main ideas than did mapping instruction for low-aptitude developmental students. In contrast, for high aptitude developmental students, none of the four treatments had a statistically significant effect on recall of main ideas. Neither aptitude group revealed significant differences for recall of high subordinate ideas across treatments. Analysis of maps and essays for Group 1 and Group 3 indicated that Group 1 students in both aptitude groups recalled a great number of main and high subordinate ideas in their maps, but did not seem to retrieve these ideas when they wrote. Students recalled approximately 50% fewer main ideas and high subordinate ideas in their essays than they recalled in their maps.

WOLFE, ROSEMARY FANTI. The Supplemental Instruction program: Developing learning and thinking skills. *Journal of Reading*, December 1987, *31*, 228-232.

Discusses the effectiveness of a Supplemental Instruction (SI) program for teaching skills using course content at a community college, summarizes the methods used in the SI sessions, and reviews the available data measuring the success of students involved in the SI group. The Supplemental Instruction reading program used course content as a vehicle for skills instruction, with trained SI leaders becoming "model students" in targeted high risk courses. In a pilot study of an SI program with volunteers from a freshman history class, the researcher attended each class, took notes, read the text assignments, and prepared for the essay exams required for the course. In addition, four weekly content review sessions were offered. Approximately 46% of the students used the service, averaging 3.3 sessions per student. Only 16% of the students participating in SI received a grade of D or F or withdrew from the course. In the same class, for students with no SI participation, 55% earned a grade of D, F, or W. The professor in the history course indicated awareness of a higher level of questioning from students.

HAYES, CHRISTOPHER G. Teaching basic reading to basic writers. *Journal of Reading*, November 1987, *31*, 100-108.

Describes an experimental reading course designed for college students exhibiting low ability reading and writing skills. The course was predicated on the notion that reading and writing are interrelated processes that are best developed in meaningful contexts. The course consisted of sustained silent reading, personal reading journals, individual conferences, group discussions of shared magazine articles, and written reactions to articles that were read. A quasi-experimental evaluation compared the progress of students in the experimental course with counterparts taking a basic writing course. Students in the experimental course made significant improvement in comprehension and writing ability, whereas students in the writing course showed significant improvement only in comprehension. Neither of the groups showed significant improvement in vocabulary.

BALAJTHY, ERNEST. An investigation of learner-control variables in vocabulary learning using traditional instruction and two forms of computer-based instruction. *Reading Research and Instruction*, Summer 1988, *27*, 15-24.

Investigates the ability of 60 college developmental reading students to monitor adequacy of vocabulary instruction in three alternative treatments: traditional workbook-like exercises and two computer-based formats, text game and video game exercises. Students in three developmental reading classes were randomly assigned to one of three groups. The study continued for three sessions, allowing each group to study three different sets of 15

vocabulary words using one alternative treatment each session. Each format allowed learner-control over time-on-task with a maximum of 60 minutes per session. Subjects' study times were recorded. Multiple choice tests were used to assess learning, and subjects were asked to rate each treatment for effectiveness and interest value. Results were analyzed in three separate ANOVAs to determine effects on three dependent variables: achievement, time-on-task, and interest rating. Findings indicated that subjects were unable to accurately monitor the success or failure of their learning. No relationships were found between subjects' ratings of effectiveness and their time-on-task or their achievement on the multiple choice tests. Effectiveness of learner control was equal for computer-based instruction and traditional workbook tasks.

ANDERSON, ORA STERLING, & SMITH, LAURA J. Peer tutors in a college reading laboratory: A model that works. *Reading Improvement*, Winter 1987, *24*, 238-247.

Reports the results of a three-phase study designed to determine the effects of the use of peer tutoring in a college reading laboratory on the test performance of underprepared freshmen over a three-year period. Phase I established the need for a Reading Laboratory experience as a component of the developmental reading course with 43% of 250 freshmen failing to achieve the established criterion score on the NDRT. During Phase II, participating students were required to attend the Reading Laboratory for two hours per week in addition to the regular class time of 50 minutes per day five days a week. Staffing in the lab included a full time director and six peer tutors. Tutors were selected and trained in the operation, design, and purpose of the Reading Laboratory. Failure rate decreased from 43% to 20%. Phase III was designed two years later as a follow up to determine the percentage of retention of subjects involved in the longitudinal study and to further determine the Reading Laboratory's effectiveness on students' performance. Results indicated a significant effect relationship between final grades of passing, 18 or more reading laboratory hours, and reading posttest scores that reached the criterial cut-off. Low significant coefficients existed between final grades and laboratory hours and between laboratory hours and posttest scores. A high significant relation was found between final grades and posttest scores. Posttest scores were raised significantly over a three-year period. Content analysis of qualitative data obtained from student interviews indicated that students' perceptions were positive.

V-9 Instructional materials

DURKIN, DOLORES. Teachers' manuals in basal reading programs. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 3-10.

Surveys the contents of five basal reader manuals. Five current, widely-used basal reader manuals were examined to determine what guidance was offered for comprehension instruction. The number and frequency of activities related to comprehension instruction, review, application, and practice were identified. A number of specific patterns were observed across the manuals. Some of these patterns included failure to offer precise help when needed, introducing content at developmentally inappropriate levels, introducing new concepts after a selection is read rather than before, an eagerness to shift to workbook and ditto sheet assignments, and a tendency to mention comprehension strategies without thoroughly developing them. The frequency with which skills were reviewed seemed to have no relation to their difficulty or importance. A large discrepancy was also found between the frequency of instruction and the frequency of application.

COTTON, EILEEN G.; CASEM, CELIA B.; KROLL, MARY A.; LANGAS, ELIZABETH U.; RHODES, ANNE W.; & SISSON, JULIA R. Using a skill trace to solve the basal reader adoption dilemma. *Reading Teacher*, February 1988, *41*, 550-555.

Reports results of the use of a skill trace, a sampling type of basal reader analysis that focuses users' attention on the development of a teaching practice and testing procedure for a selected skill across series. All references to the skill (short vowel sounds) in the teachers' edition and workbook were analyzed by a set of criteria developed by an adoption committee. Five series were analyzed at three levels (primer, second grade, and fourth grade), allowing comparison across textbook series. In addition, the adoption group planned a skill trace that took into account the dominant cognitive style in the lessons in the five series. The short vowel lessons were sorted into seven instructional categories for field dependent and field independent learners: synthetic, linguistic, analytic, VAKT (visual/auditory/kinesthetic/tactile), language experience, combinations of these, and "other." Results indicated series differed in their attention, repetition, and approach to a skill, ranging from a low of 2 to a high of 32 lessons on the skill being traced, with an average of 21. Most (71%) were aimed at field dependent learners; the lessons were mostly deductive.

MORROW, LESLEY MANDEL. Promoting voluntary reading: Activities represented in basal reader manuals. *Reading Research and Instruction*, Spring 1987, *26*, 189-202.

Examines six sets of basal readers, levels pre-primer through third grade, to determine if teachers' manuals include research-based recommendations to promote voluntary reading. Research-based activities included 14 alternatives found effective in promoting voluntary reading in previous studies. A total of 2,733 lesson plans in 122 books were analyzed, and each occurrence of an appropriate activity was tabulated. Findings revealed limited observations of key elements. Nine activities were observed in less than 1% of the stories, and five were suggested in conjunction with 5% or more of the basal selections. Those that were included were suggested infrequently. Of the five activities found in 5% or more of the basals, four appeared significantly more often in supplementary sections of the manuals. Differences between publishers were noted; however, no differences in use between grades was discovered.

MILLER, SAMUEL D. Basal worksheet directions: Are they designed by publishers according to a student's competency level? *Reading Improvement*, Winter 1988, *25*, 319-325.

Evaluates the difficulty of basal worksheet directions by assessing syntactic complexity and the demands placed on pupil memory. Syntactical difficulty was measured with readability formulas, and memory demands were measured by identifying the number of discrete steps to be followed in completing a worksheet. Three series designed for grades 2, 4, and 6 were examined. Statistical comparisons for both dependent variables focused on differences within and across basal series. For each analysis, a series of t-tests with Bonferrone corrections for planned comparisons were conducted. Results revealed that, for the most part, directions were not designed according to pupils' competency levels. The majority of readability estimates was three levels higher than the grades for which the worksheets were designed. Memory demands were also found to be stringent. In one program, memory demands were equivalent across grade levels and were not affected by skill area. In the other two programs differences existed between grade levels; however, the most difficult directions, or memory demands, were found in the earlier grades.

BACHARACH, NANCY. Analogical reasoning in basal reading materials. *Reading Psychology*, April-June 1988, *9*, 93-100.

Examines the teacher's manuals of four major basal reading series, grades 1 through 5, to determine if analogical reasoning was addressed as a component skill. The nature and extent of identified recommendations for instruction were analyzed and compared to components of analogy training detailed in the literature. The series studied were Harcourt Brace

Jovanovich, Houghton Mifflin, Macmillan, and Scott, Foresman. Distinct differences between basals were found. Only Houghton Mifflin did not include analogical reasoning. Harcourt Brace Jovanovich and Scott, Foresman provided many practice exercises, but did little to teach the skill of analogical reasoning explicitly. Macmillan addressed analogical reasoning more thoroughly; however, none of these programs provided instruction paralleling precisely the model of analogical reasoning training found successful in previous research.

BAKER, CAROLYN D., & FREEBODY, PETER. Representations of questioning and answering in children's first school books. *Language in Society*, December 1986, *15*, 451-483.

Analyzes the nature of question-answer pairs in beginning school readers. A total of 163 basal and supplementary readers were gathered for the examination. Over 1,700 conversational "turns" (i.e., speeches separately attributed to individual children and adults by the narrators in the texts) were located. Only those conversational representations in "real life" settings—mainly home and school scenes in stories—were included in the analysis; conversations between animals and children and among people in fairy tales and similar stories were not included. Questions examined were only those expressed in interrogative form. Some 600 conversational turns were identified for analysis. A typology of question-answer sequences was created in order to identify possible differences in the content, structure, and context of the textual representation of question-answer pairs. These categories included information sequences, request sequences, and permission sequences. Within each of these three categories, three aspects were addressed: who initiated the sequence and who completed it; how turns within the sequence were typically constructed; and how the two parts of the sequence were connected. Findings indicated that the model of child-adult talk portrayed in home and school scenes in the books appeared to endorse some of the conventions for participation in instructional talk, and in this respect is implicitly a source of socialization into classroom culture. At the same time, it was found that the texts give child speakers far more initiative in conversation than typically obtained in classroom talk. The research also points out possible difficulties for child readers in interpreting the talk-on-paper, arising both from textual formats and from the particular versions of the child as conversationalist.

REUTZEL, D. RAY, & DAINES, DELVA. The instructional coherence of reading lessons in seven basal reader series. *Reading Psychology*, January-March 1987, *8*, 33-44.

Examines the instructional coherence of randomly selected reading lessons in seven basal series. Instructional coherence was described as "a structure which logically links instructional components of a reading lesson to one another in an organized manner." For the analyses, 210 instructional units were randomly selected from seven basal reading series from grades 1-6. A procedure and corresponding instrument were developed by the researchers to analyze the basals. The basals were examined for explicit links in the teachers' manuals among the traditionally accepted lesson parts: vocabulary introduction, story introduction, the story, story questions, skill lesson and enrichment. Findings indicated that each instructional unit was composed of several self-contained mini lessons rather than representing an integrated and related unit for instruction organized around a central purpose. Lesson parts failed to make logical connections to previous or following lesson parts.

SIMENSEN, AUD MARIT. Adapted readers: How are they adapted? *Reading in a Foreign Language*, Autumn 1987, *4*(1), 41-57.

Reports selected research results on publishers' policies on text adaptation. Adapted readers are described as one type of graded readers. The main principles of text adaptation as reflected by publishers' documents were described and compared. Nine series of adapted

readers from six publishers were reviewed. The selection was based on the publishers' ability to provide information about their policy on text adaptation. All documentation was surveyed for the principles of adaptation in three categories: control of information, control of language, and control of discourse. Results showed that by far the greatest attention in publishers' documents was control of language on the lexical and traditional grammatical levels. The control of other aspects of language, especially aspects of discourse structure and aspects of information, seemed to have a lower priority, and in some cases was non-existent.

NEGIN, GARY A. Story structure in basal readers. *Reading Horizons,* Winter 1988, *28,* 140-145.

Evaluates two basal reading series to determine whether their stories satisfied the requirements of a conventional story grammar. All narrative stories from the first through eighth grade levels of both Houghton Mifflin Reading Program and Scott, Foresman Reading Program were read and evaluated for the presence or absence of an identifiable story structure, i.e., whether the narrative had a beginning that presents a problem, a middle where action is taken, and a resolution which is stated in the end. Narrative stories accounted for 38% of the selections in the Houghton Mifflin series and 36% in the Scott, Foresman series. Ninety-one percent of the narratives in the Houghton Mifflin series and 87% of the narratives in the Scott, Foresman series satisfied the story grammar. In general, the percentage of selections which were judged as meeting the story grammar criteria increased as grade level increased. The researcher noted that simple descriptive passages or chronological descriptions did not qualify as well constructed narratives, but nevertheless were judged to be clear and comprehensible.

KELLER-COHEN, DEBORAH, & HEINEKEN, JANE. Workbooks: What they can teach children about forms. In David Bloome (Ed.) *Literacy and Schooling.* Norwood, NJ: Ablex Publishing Corporation, 1987, 258-288.

Explores the organizational and structural characteristics of children's workbook pages to determine their potential utility for teaching their users about forms and to prepare them for using forms. Forms were defined as any structured question-and-answer exchange in which the questions are predetermined and written and the kinds of written responses they require highly constrained. Fifty pages from each of three workbooks series at different levels were analyzed. Contents were categorized as instructions, elicitations (or portions of the page that required written responses), and as slot types (the conventionalized ways in which responses are written on workbook pages). Reference material, or that material removed from an elicitation item and yet referred to in order to complete the item, was the other component typically constituting a set or section. A workbook page could have one or more sections. Organization of pages was typically top to bottom. Sections within pages were also arranged vertically. Materials within sections were arranged in three dominant top-to-bottom ways. Only seven of the total of 322 sections did not follow one of these three top-to-bottom arrangements. Analyses indicated early grade materials had an average of one section per page while by sixth grade there was a modest increase, still indicating that pages with multiple sections are not common in children's workbooks. Examined workbooks included instruction on each page; directions were explicit rather than implicit or global. Sections with multiple elicitation items tended to increase with grade level. Elicitations were also examined to determine whether, like authentic forms, their syntax was reduced, i.e., lexical or phrasal in nature. The two series varied moderately in the frequency with which they used phrasal and lexical elicitation structures, with no apparent increase across the grade range studies.

WODINSKY, MARILYN, & NATION, PAUL. Learning from graded readers. *Reading in a Foreign Language,* Autumn 1988, *5,* 155-161.

Does a word frequency count of two graded readers and one unsimplified book. The texts were typed into a computer, and a listing of all the different words in each book and their frequency was made. Closely related items such as plurals, comparatives, or other endings added to a word were counted as occurrences of the same word. The two graded readers, both from Level 4 of a New Zealand series, had a combined total of 32,107 words and 1,096 different word families. In the two readers, 498 words were repeated 10 or more times while 149 words occurred only once. In the unsimplified book, 42.4% of the words occurred only once, while 84.8% of the words were found nine times or less. However, even with the graded texts, it was found that children would need to read many more than the two books in order to meet most of the words at that level.

BAUMANN, JAMES F. Anaphora in basal reader selections: How frequently do they occur? *Journal of Reading Behavior,* 1987, *19*(2), 141-158.

Examines basal reader excerpts for the frequency with which various forms of anaphora occur. Two 1,000-word narrative and two 1,000-word expository excerpts were selected from the second-, fourth-, and sixth-grade levels of four popular basal reader series. This resulted in a total pool of 48,000 running words (12,000 for each publisher, 16,000 at each grade level, and 24,000 for each genre). A modified version of a previous taxonomy of anaphora was used to calculate frequencies per 1,000-word excerpts for various types of noun, verb, and clause substitutes. Inferential statistics indicated that (a) anaphora frequently did not differ as a function of grade level of text, (b) anaphora occurred more frequently in narrative than in expository text, (c) anaphora differed as a function of publisher, and (d) grade level, genre, and publisher did not interact in any way. Descriptive statistics revealed that (a) noun substitutes comprised the majority of all anaphora forms, (b) pronouns constituted the most frequently occurring form of noun substitutes, and (c) personal pronouns accounted for the majority of all anaphora.

RADENCICH, MARGUERITE. Anaphora: The forgotten element in algebraic problem solving. *Florida Reading Quarterly,* June 1989, *25*(4), 45-48.

Seeks to determine the extent to which different types of anaphora occur in Algebra 1 texts. Five Algebra 1 textbooks, selected on the basis of their wide use and copyright dates (after 1980), were surveyed. The anaphora taxonomy applied in this study included classifications for: noun substitutes by pronouns (me, you), locatives (here, there), synonyms (lad for boy), superordinates (animal for dog), arithmetic substitutes (some, few, both), and other categories as needed. The types of word problems considered were all those that were identified in at least four of the five texts. Ten problems of each of six types were examined for four books; only five types were found and examined in the fifth book. The first 10 odd-numbered problems which were at least two sentences long were examined. Two raters independently classified each word problem. Initially, division of anaphora into categories was unreliable with an interrater reliability of .47; however, agreement was 100% after discussion. Resulting totals within each category for each text were calculated. The type of anaphora found most frequently in all texts surveyed was personal pronouns. Arithmetic anaphora and synonyms occurred with moderate frequency.

ARMBRUSTER, BONNIE. Content area textbooks: A research perspective. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America.* Lexington, MA: D.C. Heath & Co., 1985, 47-60.

Presents research-based evidence confirming that characteristics of text have an important influence on how much and what students will learn from reading a textbook. Review of the literature indicated that students will understand and learn more from text that is coherent, with a clear overall structure that establishes the significance of the ideas presented and with tight ties that bind the ideas together. In addition, it was determined that students will

learn more important information from a textbook that emphasizes main ideas and asks questions about important understandings.

ARMBRUSTER, BONNIE B., & ANDERSON, THOMAS H. On selecting "considerate" content area textbooks. *Remedial and Special Education*, January-February 1988, *9*(1), 47-52.

Examines content area textbooks for evidence of certain features that can contribute to the "considerateness" of a text, and presents practical suggestions for evaluating textbooks. A considerate content area textbook is "user-friendly," that is, it is relatively easy to read, understand and learn from. Recent research in cognitive psychology and reading suggests some features that can contribute to the considerateness of a text. Three of these features (structure, coherence, and audience appropriateness) were selected as the focus of this examination. Results revealed that most texts were poorly structured, scored low on measures of coherence, and often made inappropriate content and skill demands on intended audiences. Specific suggestions for evaluating textbooks for evidence of the three selected features are defined and discussed. Information concerning the number and type of content area textbook examined is not reported.

O'HEAR, MICHAEL F.; RAMSEY, RICHARD N.; & PHERSON, VALLI E. Location of main ideas in English composition texts. *Research in the Teaching of English*. October 1987, *21*, 318-326.

Examines the efficacy of main idea clues in four English composition texts. Four current textbooks for introductory composition courses were examined to determine whether paragraphs had stated main ideas, the location of main ideas in individual paragraphs, and whether multiple clues for finding main ideas occur with any frequency in English texts. Results of the analysis indicated that the main idea was in the first position over 53% of the time. Main idea in the second sentence occurred next most frequently. Chi square was used to determine that two English composition texts had statistically significant differences between the position of main ideas within their chapters. Results of the analysis of English texts with an earlier study of sociology texts indicated close agreement in percentages and of placement of main idea in first and second sentences. Last position occurred with less regularity in English texts. Examples and repetitions are the most frequently used clues to main ideas. Subheadings are clues to 32% of the main ideas in the English texts. Use of key words or highlighting are clues less frequently used. The mean number of clues to main ideas occurring in each paragraph was 2.5.

STAHL, NORMAN A.; BROZO, WILLIAM G.; & SIMPSON, MICHELE L. Developing college vocabulary: A content analysis of instructional materials. *Reading Research and Instruction*, Spring 1987, *26*, 203-221.

Conducts a content analysis of 55 college level vocabulary texts to determine the type of instruction recommended and whether it is in keeping with empirical evidence. Content was first coded into one of 13 instructional categories; each exercise in each instructional category was then categorized as either generative (permitting students to generate vocabulary outside or beyond the specific materials) or additive (emphasizing the learning of predetermined words). It was found that 45 textbooks had an overall additive approach, 3 an overall generative approach, and 7 a combination of the two. Little effort appeared to be directed towards aiding students in transferring knowledge to their own reading.

GOETZ, ERNEST; ALEXANDER, PATRICIA, A.; & SCHALLERT, DIANE LEMONNIER. The author's role in cueing strategic processing of college textbooks. *Reading Research and Instruction*, Fall 1987, *27*, 1-11.

Examines the nature and prevalence of author-provided cues to effective processing in introductory college level textbooks. Five textbooks in both psychology and biology were identified in consultation with instructors of undergraduate biology and psychology courses. For each textbook, three chapters were chosen at random from the first, middle, and final third of the book, excluding the first chapter. Within each chapter, three samples of texts (four to five pages) were drawn. An analysis of these samples was made using a category system. The analysis was designed to identify cues that help learners focus their attention, relate the text to their previous experience, enhance their interest, provide a different form for their information by giving a graphic or textual restatement, and provide the reader with aids for organizing the information. Results indicated that the types of cues to strategic processing varied widely both across and within the two disciplines and that, when aggregated, the mean number of strategy cues per page ranged from 8.27 to 16.71. Some authors made use of a variety of cues and others showed a concentration of just a few kinds. Overall, it appeared that the authors of the examined texts generally chose cues that would be effective with relatively passive learners and rarely chose cues that demanded much activity from readers.

LONG, SARAH J. Context clues in four freshman college textbooks. *Forum for Reading*, Fall/Winter 1988, *20*, 14-21.

Synthesizes the research literature to define and categorize recommended context clues and examines four freshman college textbooks to compare evidence of context clues in text with the research-based recommendations. The context clue literature published between 1943 and the late '70s was reviewed, and two science and two social science texts representative of introductory college freshman course work were analyzed. Only technical terms necessary for understanding key concepts of the chapters were considered. Occurrences of clues were tabulated according to category; frequencies and percentages were computed. The literature search yielded 22 distinct types of clues. Of these, 13 clues, or 59% of the recommended clue types, were identified in the science and social science texts. Four clues mentioned frequently in the literature also appeared often in the texts examined, while nine clues not found in the texts were cited infrequently in the literature. Highlighting was the most common clue in the four textbooks. Clues used with about the same frequency by all four authors were highlighted words, direct description, and pictures and charts.

O'HEAR, MICHAEL F., & ASHTON, PATRICK J. The substantive value of main idea statements in sociology textbooks. *Forum for Reading*, Spring/Summer 1987, *18*, 46-51.

Analyzes three sociology textbooks to determine the percentage of paragraphs containing material important for understanding major textbook concepts and also to determine how important format main ideas were for a substantive understanding of textbook material. Chapters examined were those dealing with culture, the family, and social inequality. Substantive material in the three chapters was first identified and then the number of paragraphs containing substantive material compared with the total number of paragraphs in the chapters. Counts were then made of paragraphs in which only the main idea was important, ones in which the main idea and other material were important, and those in which the formal main idea was not important. The average percentage of paragraphs containing important information across the three texts and three chapters was 59.6%. Some 18.8% of paragraphs were ones in which only the main idea was important; 68.4% of paragraphs were ones in which the main idea plus other material was important; and 12.8% of paragraphs were ones in which the main idea was important or too general to be of value.

GRUNDEI, LINDA; MOHLER, PEGGY; & WHITT, JEANNE. Trading on our knowledge of tradebooks. *Ohio Reading Teacher*, October 1987, *22*(1), 23-32.

Reviews articles and editorials appearing in *Reading Teacher*, *Language Arts*, and *Journal of Reading* focused on the use of tradebooks in classrooms. The articles offered support for the use of tradebooks, arguing their influence on widening pupils' perspectives, stimulating imaginations, and motivating reading. In addition, the articles offered suggestions for how to use children's literature to motivate independent reading, and stimulate discussion in the classroom, and for teachers' modeling of reading. A third strand of literature reported teachers' experiences with using tradebooks with children, including weekly library trips, sustained silent reading, and sharing books through reports, displays, and other responses. Areas of needed research are offered.

KNAFLE, JUNE D.; WESCOTT, ALICE LEGENZA; & PASCARELLA, ERNEST T. Assessing values in children's books. *Reading Improvement*, Spring 1988, *25*, 71-81.

Develops and reports on a scale to assess values in children's books. Eight value categories were included in the instrument: Positive Behavior, Positive Feelings, Negative Behavior, Negative Feelings, Traditional Values, Judeo-Christian Religious Values, Other Religious Values, and Neutral Values. The scale was applied to the 49 Caldecott Medal winners, 1938-1986, and a percentage tally and frequency tally made for each book. Results for each tally type were then analyzed using analysis of variance. Somewhat different results were obtained by the two tally methods. It was felt that the percentage tally reflected a more sensitive portrayal of the book. Differences in values among decades were not found.

V-10 Teaching—grouping/school organization

DREEBEN, ROBERT, & BARR, REBECCA. The formation and instruction of ability groups. *American Journal of Education*, November 1988, *97*, 34-64.

Explores whether teaching, based on an analysis of first-grade reading instruction, contains elements that might be considered technological. Technological elements were described as principles expressing coherent connections between means and ends. The study focused on the core activities of teaching reading: organizing for and carrying out instruction. Three school districts representing broad socioeconomic differences were identified in the Chicago metropolitan area. In each district, schools with at least two first grade classes whose teachers and administrators had agreed to participate in the study were selected. In total, the sample included seven schools, 13 classes, 50 instructional groups, and over 300 first graders. Data analyses focused on the nature of the first grade reading curriculum, the allocation of time for instruction, the class distribution of student aptitude, and pupil achievement. Reading achievement measures included the *Word Learning Task*, the WRAT, and the *Interactive Reading Assessment System*. Measures of resource and instructional groups were based on full day observations at 12 three-week intervals over the school year. Results confirmed that the teaching of first grade reading did contain technological elements. These were observed to pervade the school-system organization and were not restricted to individual classes. The authors suggested that the evidence brings into question the view that teaching is largely intuitive, unpredictable, and resistant to analysis.

DREEBEN, ROBERT, & BARR, REBECCA. Classroom composition and the design of instruction. *Sociology of Education*, July 1988, *61*, 129-142.

Collects data on first-grade reading instruction using over 300 pupils from 13 classrooms in three metropolitan school districts. Districts reflected broad socioeconomic differences. Collected was information on reading readiness or aptitude, word learning, general reading achievement, age, sex, race, and socioeconomic status. Additionally, measures of the availability and use of resources were obtained through full-day observations at 12 three-

week intervals over the school year. Observers recorded the amount of curricular material covered and the membership of reading groups. The difficulty of the reading curriculum was assessed also. Classes were characterized as difficult, average, or easy on the basis of their average readiness and the number of low readiness pupils. In easy classes, the middle and top groups tended to be large; low groups tended to be few in number and small in size. The composition of a class tended to constrain the composition of the instructional groups and the nature of the grouped instruction. Pupils in the lowest aptitude groups in difficult classes learned far fewer words during the school year than did pupils in comparable groups in the average classes. Pupils in high-average groups in easy classes learned more words than comparable pupils in average classes.

CAZDEN, COURTNEY. Ability grouping and differences in reading instruction. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America.* Lexington, MA: D.C. Heath & Co., 1985, 109-121.

Examines observational research of differential instruction for four purposes: to determine differences in instruction between high and low ability reading groups; to assess the outcomes of differentiation; to identify the causes of differentiation; and to delineate procedures for change. Recent observational studies, including survey research and qualifier case study analyses, were considered. Findings from separate studies were found to be highly consistent and were therefore considered representative of any larger sample that might be observed. Specific differences were closely related to qualitative aspects of reading. Compared to instructional procedures observed with high ability groups, teachers' behaviors with low ability readers resulted in less attention to reading for meaning, less time on comprehension instruction, and limited reinforcement of self-correction strategies. These practices were considered to restrict the progress of the low group children. Several possible causes of differential instruction were discussed with evidence suggesting that teachers hold alternative theories of how children of varying ability levels learn to read.

SHAFFER, TERESA. The right to read. *Oklahoma Reader*, Spring 1989, *24*(3), 14-16.

Compares the effects of two alternative reading instruction formats on the achievement of fifth grade pupils reading below grade level. Traditional homogeneous group instruction was compared with individualized instruction for one school's fifth grade pupils scoring below the fifth grade level of the GMRT administered at the start of the school year. Each pupil was further assessed on the SDRT, Form A, as a pre-treatment measure of reading achievement, and randomly assigned to a treatment group. The traditional group received whole group instruction utilizing methods of oral reading, silent reading, group discussion, questions for comprehension, and workbook assignments. The individualized instruction group worked one-to-one with the teacher using materials selected to address skill needs identified on the SDRT. Instruction for both groups was provided four times weekly for 50 minutes. Following 18 weeks of instruction, posttesting was conducted using the SDRT, Form B. Means and standard deviations for both pre- and postadministrations of the SDRT were displayed for both groups. Improvements for both groups were suggested.

HYDE, ARTHUR A., & MOORE, DONALD R. Reading services and the classification of students in two school districts. *Journal of Reading Behavior,* December 1988, *20*, 301-338.

Examines the student classification practices in two school districts and the impact such practices have on reading instruction. Two suburban school districts in the Chicago area were studied using the focused qualitative research methods of document analysis and interviews. Data were collected by a four-person team over a four-month period. Data analysis culminated in the generation of cross-site propositions. Detailed field notes provided a thor-

ough description of classification practices. Classification practices were found to vary between districts, among schools within a district, and among classrooms within a school. This variation in practice often adversely affected children at risk. Lack of coordination was evident. Staff who possessed the greatest knowledge of reading instruction frequently had little input on planning. Overall, the districts were characterized by incremental planning, fragmentation, and differentiation.

V-11 Corrective/remedial instruction

ALLINGTON, RICHARD; STUETZEL, HELEN; SHAKE, MARY; & LAMARCHE, SHARRON. What is remedial reading? A descriptive study. *Reading Research and Instruction*, Fall 1986, *26*, 15-30.

Investigates remedial reading instruction in four different districts representing rural, rural-suburban, and small urban communities. Observations of remedial and classroom reading instruction were conducted over a six-month period. Five classroom teachers, grades 1-4, and the schools' remedial reading teachers and aides volunteered for observation from four schools in the four districts. Four of the five remedial programs were pull-out programs; one was an in-class model. Twenty seven remedial reading subjects enrolled in five different classrooms were observed. All pupils were in the lowest reading achievement group in their classrooms. Two observers completed 40 observations resulting in 3,100 minutes of classroom instruction and 1,300 minutes of remedial instruction. Data collection procedures included field notes of observations keyed to clock times, audio tape recordings of some instructional sessions, collection of materials used for instruction, and interviews of teachers. Observations revealed that remediation consisted of children completing skill lessons in workbook or worksheet activities with teachers serving as managers. Most remedial activities were not congruent with classroom tasks. Examination of time allotments indicated that only a small amount of time was devoted to directed reading of connected text by remedial teachers. Remedial readers generally received no additional instructional time in reading.

ELDREDGE, J. LLOYD, & QUINN, D. WILLIAM. Increasing reading performance of low-achieving second graders with dyad reading groups. *Journal of Educational Research*, September-October 1988, *82*, 40-46.

Examines the effects of dyad reading on the achievement of 32 poor readers in grade two. Poor readers were defined as children whose frustration reading level on IRIs were second grade or below. A control group of 32 children matched by sex and pretest reading scores was identified also. The GMRT, Level B, was administered as a pre- and posttest measure. Peer reading partners met with the poor readers in the dyad groups. Partners changed weekly over the nine months of the program. Dyad reading was used only until poor readers could begin to read grade level material independently, as determined by teachers. After two-and-one-half months, 25% of poor readers in the experimental group discontinued dyad reading because they could read grade level materials; 38% of poor readers (n = 12) were involved for the full nine months. Experimental pupils made greater gains on the GMRT than did controls.

REID, D. KIM. Role of cooperative learning in comprehensive instruction. *Journal of Reading, Writing, and Learning Disabilities International*, 1988/1989, *4*, 229-242.

Discusses instructional designs based on research findings that indicate that comprehensive instruction must address three knowledge types: declarative (knowing facts, words, or other data), procedural (knowing how to do something), and conditional (knowing when and why to engage in a variety of specific behaviors). The sequence of instructional activities

for teachers of students with learning disabilities suggested by this research review were: 1) accessing background knowledge, 2) explicit clarification of the content and procedural goals, 3) direct instruction of content and procedures, 4) scoffolded, interactive negotiation, 5) student group work, and 6) independent work. Cooperative learning arrangements were considered appropriate because they replicate natural learning contexts, enhance self-efficacy, provide level-appropriate information processing models, provide meaningful construction, and address the specific needs of students with learning difficulties.

BILLINGSLEY, BONNIE S., & WILDMAN, TERRY M. The effects of prereading activities on the comprehension monitoring of learning disabled adolescents. *Learning Disabilities Research*, Winter 1988, *4*, 36-44.

Explores the effects of prereading interventions on LD adolescents' ability to monitor their comprehension during reading and to recognize passage information after reading. Three prereading conditions were employed: self-questions only (SQ), structured overviews and self-questions (SOSQ), and a control condition (CC). A second purpose of the study was to examine differences between the SQ and the SOSQ groups in number and types of questions generated. Subjects were 54 LD high school students in grades 9-12 who were randomly assigned to one of the three treatment groups. No statistical differences were found between the groups on WISC verbal IQ, reading comprehension, age, or grade. Study materials consisted of two 450-word expository passages written at approximately the fifth grade level with embedded errors (intrasentence and intersentence errors) and a passage recognition measure. The passage recognition tasks contained 20 statements assessing subjects' awareness of passage information. Error detection results showed that the SOSQ subjects performed significantly better than either the SQ or CC groups in their ability to detect errors during reading. Performance on the recognition measure showed that the two experimental groups recognized significantly more passage information than subjects in the CC condition. Follow-up, qualitative analyses of questions generated by the experimental group demonstrated that there were differences between the groups in number and types of questions produced. The SOSQ group asked more questions, used the overview to formulate the majority (79%) of their questions, and posed fewer unrelated questions.

BRODERICK, WILLIAM, & DENNIS-ROUNDS, JAN. Computers in the reading center: Can they make a difference in the teaching of reading? *Journal of College Reading and Learning*, 1988, *21*, 17-20.

Examines the extent to which instructional materials (skillbooks, computers, or a combination of skillbooks and computers) and extra time spent working on improving skills contributed to reading gains over one semester for community college students. Participants were 90 students reading below the tenth grade level and chosen at random from 150 enrolled in one community college's basic reading course. The study was conducted during the students' reading lab time during which they were free to choose one of three methods to improve their reading: work in skillbooks only; work on computers only; work on a combination of skillbooks and computers. Three groups were selected at random: 30 students in the skillbook only (SO) group; 30 in the computers only (CO) group; and 30 in the skillbook and computers (SC) group. While half of the students' classtime was spent in the lab setting, they also had access to the reading center outside of classtime. Records of time spent on lab activities were maintained. Progress in reading was assessed with the *Degrees of Reading Power* (DRP), administered at the beginning and end of the semester. ANOVA techniques showed that there was a significant group effect on DRP gains. Both the SC and the CO groups made significantly greater gains than the SO group; however, there was no significant difference between the SC and CO groups. Overall, extra time was found to contribute significantly to improved reading scores; however, the three groups did not vary in gains according to the extra time recorded for each.

KAISER, SHERRAL; PALUMBO, KELLY; BIALOZOR, R.C.; & MCLAUGHLIN, T.F. The effects of direct instruction with rural remedial education students: A brief report. *Reading Improvement*, Spring 1989, *26*, 88-93.

Compared direct instuction (DI) methods to basal reading instruction with remedial reading second and fifth grade pupils. Fourteen pupils from elementary schools serving a northwestern community participated in the study and were pretested on the WJPEB. Scores for seven second graders ranged from 1.5 to 2.3, and scores for seven fifth graders ranged from 3.3 to 4.4. Subjects were selected by matching their years below grade level in reading. Second grade subjects were assigned to the basal reading condition in which skills were organized into two major categories: decoding and comprehension skills. Fifth grade pupils were assigned to the DI condition and were taught the same skills according to the questioning, practice, and review components of direct instruction. All instruction followed that outlined in each teacher's manual. The study was conducted for five school weeks during which reading was taught 60 minutes each day. All children were taught either individually or in a small group setting in their respective schools. Program effects were assessed on the WJPEB. Preposttest gains were calculated; pre- and poststudy mean percentile ranks were compared. Comparisons indicated that the fifth grade DI group achieved greater gains than the second grade, basal reader group.

WIESENDANGER, KATHERINE D., & BADER, LOIS A. Teaching easily confused words: Timing makes the difference. *Reading Teacher*, December 1987, *41*, 328-332.

Seeks to determine the effects of word selection on remedial readers' learning of sight words. Specifically, the researcher attempted to determine if teaching easily confused words simultaneously as opposed to teaching the words separately affected the learning of the target word. Three groups of primary age children with limited sight vocabularies (n = 90) attending a reading clinic were randomly assigned to one of three treatment groups. In Group 1, look-alike sight words were taught together. In Group 2, nontarget look-alike words were taught separately and then compared. In Group 3, nontarget words that children substituted in their reading were not included in remediation at all. Thirty teachers provided sight word instruction for 30 minutes daily in a Context-Isolation-Context sequence, introducing a total of 48 words over six weeks. Analysis of covariance showed that children made the most gains when the target and nontarget (confused) words had been taught separately and then compared. Children in Group 3 (to whom only target words were presented) achieved the second highest gains. All groups, however, made gains using the Context-Isolation-Context procedure.

MCKINNEY, VICKIE. Reading improvement using word codes. *Oklahoma Reader*, Spring 1989, *24*(3), 7-10.

Asks if remedial readers receiving coding instruction develop better reading skills than remedial readers receiving conventional remedial instruction. The experimental group of 13 was comprised of 3 sixth graders, 7 seventh graders, and 3 eighth graders. The control group of 12 included 2 sixth graders, 2 seventh graders and 8 eighth graders. Pupils had scored below the 13th percentile on the MAT and therefore qualified for the remedial program. The coding instruction provided a direct letter-clustering approach to the development of decoding skills. Training, with tapes and worksheets, focused on perceptual conditioning of common letter clusters to allow readers to approach new words by structuring them into their appropriate letter clusters. The coding method group listened to tapes and worked in activity books for 45 minutes twice a week for 10 weeks. The conventional instruction included guided reading on the computer, vocabulary development both on the computer and on a tape recorder with audiocassette tapes, and short reading selections with comprehension questions. Program effects were assessed on pre- and posttest administrations of the GMRT.

Pretest NCE mean scores for the experimental and control groups were 29.6 and 33 respectively; posttest means were 39.7 for the experimental group and 39.6 for the control. The average gain per student for the experimental group was 10.1 and for the control group was 6.7. Significance testing was not reported.

PRIOR, MARGOT; FRYE, SALLY; & FLETCHER, CLAIRE. Remediation for subgroups of retarded readers using a modified oral spelling procedure. *Developmental Medicine and Child Neurology*, February 1987, *29*, 64-71.

Assesses the effectiveness of a modified oral spelling procedure, the Simultaneous Oral Spelling (SOS) method, on the spelling and reading performance of two distinct groups of reading disabled students. Subjects were selected from 61 secondary school students with reading problems. The mean age of the group was 13.5 years. All were screened with the PPVT. Subgroups of nine 'Chinese' (dysphonetic) and eight 'Phoenician' (dyseidetic) readers were established through preassessment of word identification, using the *Baron Word List*. A control group of 10 mixed readers (not classifiable as either 'Chinese' or 'Phoenician') was also identified. Each subject in the experimental groups received six 30-minute sessions of individual instruction using the standardized treatment. The control group received no specialized instruction. Effects on performance were assessed using immediate and delayed (two months) administrations of one spelling measure, the target words, and two reading measures, the *Schonell* and the *Baron Word List*. Effects were analyzed using repeated ANOVA techniques. Results indicated that the SOS method was an effective strategy for increasing both spelling proficiency and word recognition for these subjects. The SOS training appeared more effective for the teaching of regular words, as opposed to exceptions. Differential effects on reading gains were also noted. This appeared to be related to the more severe disability of the 'Chinese' readers who demonstrated greater gain in application of phonological strategies in this study.

PALINCSAR, ANNEMARIE, & BROWN, ANN. Reciprocal teaching: A means to a meaningful end. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 299-310.

Investigates the effectiveness of the reciprocal teaching procedures utilized by four remedial reading teachers with 21 students attending four different rural junior high schools. Standardized tests administered by each district prior to the initiation of the study (SRA *Diagnostic Reading Test*, ITBS, CAT) indicated that the students' comprehension scores averaged two years below grade level. An informal screening device was used to confirm a discrepancy between students' decoding and comprehension skills. Four experimental conditions were established and utilized with all participants: baseline, intervention, maintenance, and follow-up. Reciprocal teaching was introduced during the intervention phase and was scheduled for a maximum of 20 days. Passages used for the training sessions were selected from a variety of basal readers frequently used in the schools. Student performance in comprehension was evaluated by determining accuracy in responding to comprehension questions on daily assessments. The data indicated that students' comprehension performance improved steadily during the intervention and maintenance phases with a slight decrement in performance during follow-up. These observations were confirmed statistically using planned comparisons. To determine if skills acquired during reciprocal teaching transferred to other academic tasks, four pretest/posttest measures were applied. Students were evaluated on ability to summarize expository text, write questions for expository text, identify in a story lines that were incongruous with the title, and rate the idea units of narrative passages for importance. Results indicated significant improvement in all tasks except rating of idea units in narrative stories.

SINGER, HARRY; BALOW, IRVING H.; & FERRETT, ROBERT T. English classes as preparation for minimal competency tests in reading. *Journal of Reading*, March 1988, *31*, 512-519.

Reports a study designed to: (1) establish a procedure for separating students who are in the reading acquisition phase from those in the learning from text phase of reading development; and (2) to determine whether placement in a regular English class is more effective for enabling students beyond the acquisition phase to pass the school district's minimal competency test in reading. Phases of reading ability were determined by performance on the *Stanford Reading Achievement Test* (SRAT). A grade equivalent at or above 5.5 was established by consensus as criterial for the learning from text phase. Students who had failed the state's reading competency test but who were beyond grade 5.5 on the SRAT then self-selected into two equivalent groups. Remedial reading teachers were free to use printouts of the objectives on the reading competency tests that each student has passed or failed. The regular English teachers followed their normal instructional program of literature, grammar, and writing. After one full year of instruction in remedial or regular English classes, both placements were tested again. The difference between pre- and posttests was statistically significant ($p < .05$) favoring the regular English classes. More remedial students in the regular English classes than in the remedial reading classes passed the schools' competency test at the end of the school year; however, the difference was not statistically significant. The researchers concluded that if students were beyond the reading acquisition phase of reading development, but did not pass the district reading competence test, they were more likely as a group to benefit from placement in a regular English class than in a remedial reading class that did not provide diagnostically based instruction.

MASTROPIERI, MARGO A., & SCRUGGS, THOMAS E. Increasing content area learning of learning disabled students: Research implementation. *Learning Disabilities Research*, Winter 1988, *4*, 17-25.

Compares teacher-implemented mnemonic instruction to traditional textbook instruction in history with junior high LD pupils. Subjects included 16 seventh graders and 11 eighth graders in a lower SES, innercity, midwestern junior high school. The average age of the sample was 14-4, and the mean reading grade equivalent score was 3.0 (WRAT, PIAT, WJPEB). Pupils were enrolled in four different sections of U.S. history, taught by three experienced teachers. The mnemonic materials (symbolic reconstructions to picture abstract information) were developed to assist in teaching the relevant information for each of four chapters. Teacher scripts were provided to ensure consistency in teaching each chapter. The traditional condition was implemented with parallel teacher scripts of content with no mnemonic strategies presented. Each chapter was studied over a two-week period, and time was held constant across treatments. A within-subjects design was used and provided for each of the four classrooms to receive both the mnemonic and traditional instruction in a counterbalanced order. Initially, children were assessed on chapter tests administered immediately upon completion of each chapter. At the end of the eight weeks of instruction, subjects were given an individually administered cumulative unit test read to them by examiners. Teachers completed the *Behavioral Intervention Rating Scale* (BIRS) for both the mnemonic materials and the traditional instructional materials for each pupil. Results indicated that children learned substantially more content when instructed mnemonically. This appeared true for the individual chapter tests as well as for the cumulative test. Pupils reported favorable attitudes toward the mnemonic materials and generally attributed their relatively higher levels of performance to those materials. Teachers rated the mnemonic materials as significantly more appropriate than traditional textbook-based materials for content area instruction of LD children.

SMITH, PATRICIA L., & FRIEND, MARILYN. Training learning disabled adolescents in a strategy for using text structure to aid recall of instructional prose. *Learning Disabilities Research*, Fall 1986, *2*, 38-44.

Examines the utility of training in a text structure strategy for increasing recall of expository prose by LD high school students. Subjects were 54 LD students from three high schools, 30 assigned to the experimental treatment and 24 to a comparison group. Experimentals received the following five lessons: (1) review of main idea and detail, (2) time-order; problem/solution, and comparison structures, (3) review of previous structures and introduction to description and cause-effect structures, (4) review activities and a 7-step strategy checklist, and (5) review and practice with social studies material. Comparison students were exposed to passages, workbook exercises, and class discussions focusing on creative problem solving. A pretest, posttest, and delayed posttest, each composed of three short passages, required students to recall and identify text structures and complete a free recall activity. Experimentals improved significantly in both recognition of structures and recall of content at both posttesting and delayed posttesting; experimentals outperformed the comparison group on all measures.

BIANCO, LINDA, & MCCORMICK, SANDRA. Analysis of effects of a reading study skill program for high school learning-disabled students. *Journal of Educational Research*, May/June, 1989, *82*, 282-288.

Investigates an instructional plan for teaching outlining to high school LD students. The subjects were eight male LD students, aged 15-17, who were enrolled in a special education program in a high school for adjudicated youth. The mean reading level of the students was 5.4 (CAT). Pretesting verified that they lacked proficiency in outlining. The program provided 30 minutes of instruction for 10 days in three categories of outlining activity: title/main topic selection and format, subtopic selection and format, and detail selection and format. Materials used for training were two-page selections from a history textbook. Instructional sessions were conducted in a Visual Response System classroom where each student desk contained an overhead projector allowing students to respond to training tasks simultaneously on their own overheads. Learning was assessed on both an immediate and two follow-up tests, at four- and eight-week intervals. These postchecks required students to outline two-page selections and one complete textbook chapter to determine if training generalized to materials with different organizational patterns and language structures. Students' outlines were scored using a research-designed checklist of outlining skills. A multiple-baseline-across-behaviors experimental design with each subject serving as his own control was used to evaluate the effects of training. Results confirmed that students' skills increased as a function of the program and were generally maintained on the four- and eight-week follow up tests. Students also increased their performance on tasks used to assess their ability to generalize skills to new materials.

ALEXANDER, DEBORAH FERRANTE. The effect of study skill training on learning disabled students' retelling of expository material. *Journal of Applied Behavior Analysis*, Fall 1985, *18*, 263-267.

Seeks to determine the effects of a study skill training program on the oral retellings of printed expository material read by three 11-year-olds who attended a resource class for the learning disabled. All word recognition scores were at grade level, but comprehension levels were one to two years below grade level. A multiple baseline across pupils with reversal design was used. The study skills taught during the intervention phase involved a modified Study, Question, Read, Recite and Review technique. Measures of story retelling, study characteristics, and answers to comprehension questions were obtained during each session and across three experimental phases. These data indicated that mean retelling percentages in-

creased for all following the introduction of the study skill training condition. Although performance declined during the return to baseline and increased during the second study skills training condition, high levels of performance were maintained during the maintenance and follow-up phases. Results showed that the three LD pupils were able to retell more information following the introduction of a systematic study technique than when they were given extra study time and used their own random study methods.

GRIFFEY, JR., QUENTIN L.; ZIGMOND, NAOMI; & LEINHARDT, GAEA. The effects of self-questioning and story structure training on the reading comprehension of poor readers. *Learning Disabilities Research*, Winter 1988, *4*, 45-51.

Examines the effects of self-questioning and story structure training on reading comprehension. Participants were 27 pupils ranging in age from 9 to 13 and enrolled in combination intermediate level classes, grades 3 to 5. They ranged from 1.1 to 3.0 grade levels below grade placement on reading comprehension as measured by the CAT. The classes were assigned at random to one of three experimental conditions: combined self-questioning and story structure (n = 10), story structure only (n = 7), and teacher-generated questions (n = 10). The stories used during the intervention phase of the study were taken from a beginning second grade text because no child was reading below that level. The intervention phase consisted of four 30 minute training sessions. Pupils in the combined self-questioning and story structure group were instructed in how to ask themselves questions pertaining to the story structure elements. Children in the story structure only group were instructed in how to identify story structure elements, but were not directed to formulate questions. The pupils in the teacher-generated questions group were told that teachers often ask questions related to story structure elements. Posttesting was accomplished by having subjects read two stories at their instructional level in two different conditions; noncued, which involved no prompting to apply the strategy introduced in training, and cued, for which they were prompted to use the new strategy. This procedure resulted in an 8-item comprehension measure for each condition, two dependent variables. An additional measure was subjects' free recall scores of a fifth narrative story presented in a noncued condition. Finally, subjects were administered the Reading Comprehension subtest of the CAT. Analyses indicated that in the cued condition the combined self-questioning and story structure group answered significantly more comprehension questions than the teacher-generated questions group. The story structure only group did not perform better than the teacher group. In the noncued condition, no significant differences among the three groups were observed. No significant differences were observed on the free recall of stories or on the CAT for the three groups.

RISKO, VICTORIA J., & FELDMAN, NAOMI. Teaching young remedial readers to generate questions as they read. *Reading Horizons*, Fall 1986, *27*, 54-64.

Reports on the effects of a reciprocal questioning procedure on reading comprehension for a group of young remedial readers. A single subject multiple baseline across subject design was used to evaluate the effects of the reciprocal questioning procedure on the reading comprehension of three second graders enrolled in an after school remedial reading tutorial program. During baseline sessions, students read basal reader stories orally, stopping at designated divisions to think about what was being read. Percentage of correct scores for postreading literal and inferential comprehension was calculated. Similar procedures were followed during the intervention phase; however, this time, when pupils stopped at the division points, reciprocal questions were asked between the children and their tutors. Questioning rather than question answering was emphasized. Performance on the literal and inferential questions connected with the story was recorded. Changes in performance during the two phases were evaluated to determine whether improvement occurred consistently once the intervention was implemented. The analysis of performance on inferential questions

showed a significant difference between baseline and intervention for all three children. These analyses indicate that pupils made gains across either one or both measures of comprehension.

MUDRE, LYNDA HAMILTON, & MCCORMICK, SANDRA. Effects of meaning-focused cues on underachieving readers' context use, self-corrections, and literal comprehension. *Reading Research Quarterly*, Winter 1989, *24*, 89-113.

Assesses the effects of three strategies parents were taught to employ in tutoring their underachieving children. The three strategies included: (1) correcting only miscues that interfered with meaning and only after waiting for the child to self-correct; (2) using cues encouraging the child to use context to identify a word; and (3) praising for self-correction and use of context. Subjects were six underachievers who had just completed first grade and their mothers. Parents attended three workshops in which they were trained in the three strategies. Parent behaviors were assessed during a baseline period, during the three-part intervention period, and during a maintenance period. Children's oral reading behaviors were measured before intervention (pretest), after intervention (posttest), and four weeks following completion of the intervention period. Children's error rates decreased from pretest to posttest; use of context, self-corrections, and correct responses to literal questions increased. Gains were maintained four weeks following the end of intervention. Strategies appeared to generalize from trade books to basal readers.

BUCK, MARGARET J.; WARR-LEEPER, GENESE A.; & EVANS, BARRIE. A home tutoring program designed to improve reading skills and self-esteem of poor readers. *Reading Improvement*, Fall 1988, *25*, 202-213.

Investigates the effectiveness of a home tutoring program on the reading skills and academic self-concept of nine subjects with academic deficiencies. Subjects ranged in age from 7.1 to 10.5 years, and all were of normal intelligence. Tutors were university students who were trained individually for an average of 2.5 hours prior to initiation of the project. One-to-one tutoring sessions were conducted in each child's home once a week for one to one-and-one-half hours. The number of sessions per child ranged from 7 to 22, with a mean of 15.5. The objectives of remediation were individualized and based on testing and observations. Each session typically consisted of sight word reading, guided reading, skill instruction, and story writing. Tutors provided frequent praise and evidence of success. Progress in reading was determined using pre- and poststudy administrations of formal and informal assessments: the *Woodcock Reading Mastery Test*, Forms A and B, a modified informal reading inventory, and an informal assessment of sight vocabulary. Statistical analyses of treatment effects, using pre- and post-training t tests, revealed significant increases in reading skills. Total scores on the Woodcock increased an average of one grade level. Changes in self-esteem were assessed subjectively. Informal reports from tutors, subjects, teachers, and parents suggested positive changes in self concept.

MORGAN, ROGER. Paired Reading: Origins and future. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*, New York: Nichols Publishing Co., 1985, 115-118.

Identifies the origins of Paired Reading and summarizes briefly three early studies by the author. States that the technique has demonstrated itself to be acceptable and useful for parental involvement.

MILLER, ANDY; ROBSON, DAVID; & BUSHELL, ROGER. The development of Paired Reading in Derbyshire. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 125-135.

Cites results of a pilot study and a main study on Paired Reading using reading-age delayed children in Derbyshire. Children in both studies were approximately 10 years old. The main study, conducted over a six week period, demonstrated a statistically significant effect of Paired Reading upon reading accuracy but not reading comprehension.

CARRICK-SMITH, LESLIE. A research project in Paired Reading. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 143-152.

Aims to replicate and extend a previous study in England researching the efficacy of a Paired Reading program. The effect on three aspects of reading age (acccuracy, comprehension, and rate) and on self-concept were examined with special attention in this report to accuracy and comprehension only. Involved were 28 pairs of pupils, matched for reading accuracy and age and selected from three comprehensive schools. Tutors in the project included parents, volunteer teachers, and sixth-form volunteers, all of whom were introduced to the technique of Paired Reading beforehand. Pairs worked together for two months. Pre- and posttesting with the NARA were used to determine changes. Gains for experimentals were more than twice those found for controls in both accuracy and comprehension. Follow-up testing one year later revealed that controls, while making progress, had not yet caught up with experimentals.

HEATH, ALAN. A study of the effectiveness of Paired Reading. In Keith Topping, & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 119-124.

Presents results of a pilot and main study studying the effectiveness of the Paired Reading technique. In the main study, conducted in two British schools, children were assigned to either Paired Reading or to a control group. Average age was almost 8 years and the study spanned three months. Reading age gains were determined from scores on the NARA. The 9 boys in the experimental group gained an average of 9 months in comprehension while the 8 control boys gained an average of slightly over 7 months; for the 10 experimental girls, the mean gain in comprehension was 12 months and for the 8 control girls, 5.7 months.

MORGAN, ROGER, & GAVIN, PAM. Paired Reading: Evaluation and progress. *Support for Learning*, November 1988, *3*, 201-206.

Investigates the effects of the Paired Reading technique conducted by parents at home, 15 minutes per day, for three months on the reading performance of children reading two years below their chronological age. Participants included 15 sets of parents and children who volunteered for the study. Seven were randomly assigned to the experimental, Paired Reading condition, and the remaining eight were informed they were on a waiting list for training. They comprised the control group and did not apply any special at-home reading activities. Children ranged in age from 9-8 to 11-6. Reading skills, including reading accuracy and comprehension, were assessed by pre- and posttesting with the NARA. Results revealed that the experimental group gained an average of 6.29 months in reading accuracy and 9.29 months in reading comprehension following the three months of Paired Reading. The average changes for the control group over the same time were 2.09 months in reading accuracy and minus .4 months in comprehension. The increases for the Paired Reading group were significantly higher than changes in the control group. Although the number of sessions was charted for each set, and the average home tutoring time was estimated to be 17.6 hours, no relation between number of home sessions and progress was observed. Paired Reading was then offered to the control participants, and the study was continued for 3.5 months. Because only five participated, statistical analyses were not performed; however, average gains of 5.0 months for reading accuracy and 10.2 months for comprehension were reported.

WINTER, SAM. Paired Reading: A study of process and outcome. *Educational Psychology*, 1988, *8*(3), 135-151.

Assesses a Paired Reading project involving peer tutors from two English language primary schools in Hong Kong (Schools A and B). Of concern were both the behaviors of tutors and tutees during Paired Reading activities and the effects of Paired Reading on tutees' reading performance. Participants included 10- and 11-year-old volunteers comprising 16 pairs from School A and 27 pairs from School B. Following training, they engaged in teacher supervised, Paired Reading sessions of 10 minutes daily for six weeks. There was no attempt to control reading age differences between tutors and tutees, and tutees were allowed to make independent selections of materials. A predetermined set of pairs was tape recorded on a rotating basis to secure data representing tutor/tutee behaviors during Paired Reading. This resulted in 36 recordings of 18 pairs for analysis. Occurrences of key behaviors (errors corrected, errors uncorrected, instances of positive reinforcement) and number of words read were tabulated for five minute periods. Equivalent forms of the GAP *Reading Comprehension Test* were administered in random order to secure pre- and posttest RAs for all participants. Results indicated that many of the tutors failed to follow Paired Reading procedures closely, that all tutors offered reinforcement at very low rates, that many important errors were uncorrected, and that tutors were consistent in their behaviors. Overall, tutees made substantial gains in RA on the GAP test, and significant differences were noted for pupils in School B. However, no aspect of tutee or tutor behavior was associated with size of reading gain.

SWINSON, JEREMY. Encouraging parents to listen to their children read. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 65-74.

Reports a project with 18 children from the junior section of a British primary school. The children ranged in age from 7-6 to 11-4 and were receiving remedial instruction. At a school meeting, parents were asked to listen to their child read every day for 10 to 15 minutes. Suggestions for how to help the child were given. The project was continued for two terms. Reading ages at the beginning of the project showed children to be over two years in arrears. Reading ages increased by over six months in the first term (10 weeks) and by about five months in the second term. A second project with 44 children gave similar results.

TYRE, COLIN, & YOUNG, PETER. Parents as coaches for dyslexic and severely reading-retarded pupils. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 260-269.

Gives results of a five-stage approach to Paired Reading used with 15 pupils, ages 8 to 13, in Great Britain. Parents of the children were encouraged to work with their children in reading for one-half hour daily for a year. The children had been diagnosed as dyslexic. Pupils were matched with two others of the same age, sex, reading ability, and nonverbal reasoning quotients. The 30 matched pupils were randomly allocated to a second experimental group and to a control group. Pre- and posttesting was done with the NARA and the *Salford Reading Test*. No significant differences were found between the two experimental groups, but both performed significantly better than controls.

V-12 Teaching bilingual/other language learners

FEITELSON, DINA. Reconsidering the effects of school and home for literacy in a multicultural cross-language context: The case of Israel. In Daniel Wagner (Ed.) *The Future of Literacy in a Changing World*. Elmsford, NY: Pergamon Press, 1987, 174-185.

Gives examples of successful learning experiences provided for beginning readers in Israel whose home background offered little opportunity for aid with school. Cited are research studies done in Israel.

ALFORD, MARGARET R. A culturally relevant programme for teaching reading in the mother tongue: The Karaja Indians of Brazil. *Journal of Multilingual and Multicultural Development*, 1987, *8*(6), 493-511.

Describes the establishment of an indigenous bilingual education program with the Karaja Amerindians of Brazil. The reported success of the program was attributed to the culturally relevant instruction and materials. Key features included: a) instruction offered by bilingual teachers from the Karaja culture who had received three years of extensive training; b) culturally and linguistically appropriate reading materials developed by Karaja writers; and c) completion of the first Brazilian Indigenous Social Studies book produced and illustrated by Karaja teachers.

FREEMAN, YVONNE S. Do Spanish methods and materials reflect current understanding of the reading process? *Reading Teacher*, March 1988, *41*, 654-662.

Reviews various methods of teaching Spanish reading and summarizes miscue research on reading in Spanish that supports a psycholinguistic view of reading. The review offers a summary of research on Spanish basals and suggests guidelines and materials to help teachers move toward a more whole language reading program in Spanish.

JUNGNITZ, GRETA. A Paired Reading project with Asian families. In Keith Topping & Sheila Wolfendale (Eds.) *Parental Involvement in Children's Reading*. New York: Nichols Publishing Co., 1985, 153-159.

Describes a portion of a research program designed to explore the effectiveness of Paired Reading with a group of Asian parents and their children in England. Data were available on 28 first-and second-year junior remedial pupils; 11 had experienced Paired Reading at home regularly, 10 had received non-specific reading practice, and 7 had no known home tutoring (comparison group). Pre- and posttests were given in February and May, respectively, using the *Schonell Word Accuracy Test*, *Neale Reading Accuracy Test*, and *Neale Reading Comprehension Test*. Significant progress was found between pre- and posttests for all groups for word accuracy on the Schonell. However, on all three measures, the Paired Reading group tended to outperform the other two groups, with the comparison group generally the poorest.

MOUSTAFA, MARGARET. Comprehensible input PLUS the language experience approach: A longterm perspective. *Reading Teacher*, December 1987, *41*, 276-286.

Describes the language arts experience of two intermediate grade classes of limited English-speaking students using the Language Experience Approach PLUS Comprehensible Input (CI + LEA). Comprehensible Input is a technique for oral language acquisition emphasizing concrete objects, study prints, and models. The fourth, fifth, and sixth graders ranged in literacy skills in their native language (mostly Cambodian and Spanish) from excellent to non-existent. When they had achieved an aural English language age of at least 2½ years, they were given naturally repeated Comprehensible Input using a study print which could be pointed to again and again. When children had acquired the language related to the study print, they dictated and learned to read their language using the language experience approach. Eventually, children moved from Comprehensible Input to instruction on the content words to composing their own stories about a study print. Of the 58 children who received naturally repeated Comprehensible Input before their language experience instruction, 55 grew in their ability to read in English.

ROLLER, CATHY M. Transfer of cognitive academic competence and L2 reading in a rural Zimbabwean primary school. *TESOL Quarterly*, June 1988, *22*, 303-316.

Examines evidence for transfer of academic competence between Shona and English to determine when instruction in L2 (second language) reading should begin for native Shona speakers. Subjects were 78 third graders, 79 fourth graders, and 115 fifth graders attending a rural Zimbabwean primary school. With few exceptions, all children spoke Shona as their first language. Pupils receiving reading instruction in both Shona and in English were randomly assigned to take one of four 20-item vocabulary tests. Of the four tests, one presented items in Shona that were drawn from the first and second grade books of the Shona reading series; the second test was an English translation of the first. The third test was drawn from the first-and second-grade books of the English reading series; the fourth was a Shona translation of the third test. The tests, designed to examine the transfer of academic competence, measured the effects of language (Shona or English), translation (original or translation), and grade level. Analysis of the data indicated that children performed better in Shona than they did in English; they performed better on originals than on translations; and older children performed better than younger children. With the exception of the fifth graders, there was little evidence of transfer of language skills between languages. The results suggested that these children might benefit from a delay in the introduction of L2 reading.

V-13 Tests and testing

V-13a Factors in test performance

BRAUN, CARL; RENNIE, BARBARA J.; & GORDON, CHRISTINE J. An examination of contexts for reading assessment. *Journal of Educational Research*, May/June 1987, *80*, 283-289.

Examines the effects of varying the contexts of assessment on the performance and perception of children. A sample of eight fifth-graders, all judged by their teachers to be the lowest readers in their class, were tested individually under varying contexts. Contexts one to three were devoted to assessing word recognition in isolation using parallel word lists. Context one reflected a traditional approach with no prompting by the examiner. In contexts two and three, the examiner offered progressively more support and encouragement. Contexts four to six focused on oral reading. Context four was conducted following procedures typical of an IRI administration. In contexts five and six, the examiner provided increasing amounts of assistance by discussing the topic before reading, setting a purpose for reading, and offering prompts when appropriate. Six of the eight pupils performed better when time and assistance increased. Freedom to ask questions and to receive prompts significantly increased instructional levels across contexts. Interview comments obtained after testing revealed that children perceived contexts one and four as tests and thus altered their behavior accordingly.

LESLIE, LAUREN. Research guided informal reading assessment. *Reading Instruction Journal*, Spring 1988, *31*(3), 42-47.

Reviews selected research on reading comprehension and discusses its implications for the diagnosis of reading abilities. Two major points were summarized from the research. First, that text type influences children's performance on comprehension tasks. Second, that prior knowledge plays an important role in how students respond to comprehension tasks. The following recommendations were made for incorporating principles derived from research into informal assessment: (1) include both narrative and expository passages; (2) include both goal-based and non goal-based narrative passages; (3) include passages on topics

that are generally familiar and some on topics that are unfamiliar to distinguish effects of prior knowledge; and (4) obtain some measure of the child's prior knowledge before reading the passage. A sample profile from the Qualitative Reading Inventory was presented to illustrate the suggested adaptations.

RUBENSTEIN, HERBERT; KENDER, JOSEPH P.; & MACE, F. CHARLES. Do tests penalize readers for poor short term memory? *Journal of Reading*, October 1988, *32*, 4-10.

Investigates the effects of two types of test administration (recall versus reinspection) on student performance. Thirty-two passages were selected from four levels of the GMRT. Two items, one factual and one inferential, were chosen to be used with each passage. A sample of 39 seventh-grade pupils, stratified by reading ability, was administered the test in a group situation through the use of overhead projectors. For one-half of the passages, pupils were not allowed to look at the passage; for the other half, they could reinspect the passage within a given time period. As expected, significant differences were found for reading ability, with high ability readers scoring significantly better than average readers and average readers scoring significantly better than low ability readers. Significant differences were also found for mode of testing, with pupils scoring higher when allowed to reinspect the passages. This difference, however, applied to the inference items, not the factual items. No significant interaction was found between reading ability and mode of presentation.

WEINBERG, WARREN A.; MCLEAN, ANNE; & BRUMBACK, ROGER A. Comparison of reading and listening-reading techniques for administration of PIAT Reading Comprehension subtest: Justification for the the bypass approach. *Perceptual and Motor Skills*, April 1988, *66*, 672-674.

Examines the effects of a modified administration of the PIAT Reading Comprehension subtest to 23 LD pupils in Grades 5 through 7. The sample included nine good readers and 14 poor readers, all of normal intelligence; there were no significant differences between groups on SIT scores. Initially, the subtest was administered to all children following standardized procedures: a silent reading. Three weeks later each child was readministered the test using a listening-reading procedure: items were read aloud by the examiner as the pupil followed along. Analyses of performance indicated that good readers performed significantly higher than poor readers in the silent reading condition. In the listening-reading condition, poor readers showed marked improvement in performance compared to only moderate improvement shown by the good readers. This difference in improvement between the groups was significant and resulted in poor readers achieving performance similar to that of the good readers administered the test in the standard manner.

ELLIOTT, CARLENE. Testing word recognition knowledge: A comparison of two techniques. *Kansas Journal of Reading*, Spring 1989, *5*, 23-24.

Asks whether the ability to locate a word, given its oral equivalent, is a reliable check on word recognition growth for second and third grade readers. Thirty children from two rural elementary schools participated. All children were reading from second grade level readers. As each reading group was ready to complete a Vocabulary Test page in the workbook, the children were given the multiple choice test orally by the teachers, and the percentage of correct responses for each pupil was determined. Each child's oral pronunciation of the words in isolation was subsequently tested individually in an untimed format using flash cards. The percentage of words identified correctly was determined. The means for the alternative tests of vocabulary terms were significantly different and favored the teacher-presentation format. The Pearson product-moment correlation coefficient between the two sets of scores was .62. A greater difference in performance between scores in the two formats was

observed for the average and below average groups of readers. Above average readers demonstrated little discrepancy.

V-13b Predictive studies

GREEN, LEN, & FRANCIS, JEAN. Children's learning skills at the infant and junior stages: A follow-on study. *British Journal of Educational Psychology*, February 1988, *58*, 120-126.

Reports a follow-up of a study originally investigating the learning skills and academic attainments of 2,272 children in 62 British infant schools. At the time of the follow-up four years later, 146 teachers completed the *Guide to the Child's Learning Skills* (GCLS) for 1,157 children from the original cohort. The following summer, 1,128 of the children were assessed on a 5-point scale in reading, numbers, and spoken language by teachers. Additionally, the NFER tests were administered to a sample of 140 children. Correlation coefficients between GCLS and NFER scores ranged between -.56 and -.63. Similar coefficients were found between GCLS and teachers' assessments of attainments. With NFER scores, teachers' assessments correlated between .54 and .59. Kendall's Tau coefficient between GCLS scores in infants' school and reading attainment four years later was -.34. The overall coefficient between GCLS scores at the infants' school and those four years later was .40.

YORE, LARRY D.; COLLIS, BETTY A.; & OLLILA, LLOYD O. Exploration of the predictive and concurrent validity of a global measure of cognitive development for grade 1 reading, mathematics, and writing achievement. *Journal of Research and Development in Education*, Winter 1988, *21*(2), 62-69.

Examines the predictive and concurrent validity of a global measure of cognitive development. Subjects were 65 middle-class, English-speaking, Grade 1 Canadian children. The cognitive development instrument was developed by selecting Piagetian tasks that tapped skills embodied in early reading, writing, and arithmetic processes. Specifically, the measure consisted of six tasks: (1) conservation of liquid amount; (2) conservation of solid amount; (3) conservation of number; (4) conservation of length; (5) seriation of length; and (6) horizontal/vertical reference frames. The cognitive measure was administered in September and May of Grade 1. Three achievement tests—one for reading, mathematics, and writing—were administered in May and served as measures of the dependent variables. Several findings were noted. The cognitive scores from both September and May were significantly related to achievement for males but not for females, with the exception being the significant relation between May testing and mathematics achievement for females. All students increased significantly in cognitive development from September to May. No gender differences were found on the cognitive measure at either time of testing.

FUNK, SANDRA G.; STURNER, RAYMOND A.; & GREEN, JAMES A. Preschool prediction of early school performance: Relationship of McCarthy Scales of Children's Abilities prior to school entry to achievement in kindergarten, first, and second grades. *Journal of School Psychology*, Summer 1986, *24*, 181-194.

Reports two studies assessing 1) the relation of scores on preschool *McCarthy Scales of Children's Abilities* (MSCA) testing to later school achievement, and 2) the ability of the MSCA to identify children at greatest risk for subsequent school problems. Study 1 sampled 129 children from a larger pool of 440. All had been screened for vision, hearing, and speech, and had taken the *Denver Developmental Screening Test* and the START vision and development test. Valid MSCA scores were obtained for 117. Scores on the *Prescriptive Reading Inventory* in kindergarten, grades 1 and 2, and the *Diagnostic Mathematics Inven-*

tory were transformed to estimate CAT scale scores. Data were available for 98 in first grade and 70 at the end of second. Data were weighted to account for loss in sample numbers. Preschool MSCA scales correlated significantly with CAT scores in kindergarten, first, and second grades, with the *General Cognitive Index* (GCI) scale and the perceptual-performance scales being the strongest predictors. Children who scored in the lowest two groups on the GCI had significantly lower scores than children scoring in the normal range at all grade levels, and many had failed a grade or been placed in special education by the end of the study. Study 2 partially replicated findings with an additional sample followed through first grade, although magnitude of the relations varied.

McGrew, Kevin S., & Pehl, Jeanmarie. Prediction of future achievement by the Woodcock-Johnson Psycho-Educational Battery and the WISC-R. *Journal of School Psychology*, Fall 1988, *26*, 275-281.

Examines the long-term predictive validity of the WJPEB and the WISC-R. A sample of 45 children who participated in the standardization of the WJPEB as third graders, and also were administered the WISC-R at that time, served as subjects. The CAT Reading and Mathematics scores were used as achievement measures for these same students in the ninth grade. Predictive validity coefficients revealed that all WJPEB cognitive and achievement scores, with one exception, correlated significantly with ninth-grade achievement. Likewise, all the grade three WISC-R scores were significantly related to ninth-grade achievement. No appreciable difference in predictive power was found between the WJPEB cognitive and achievement measures. None of the grade three WJPEB Tests of Interest were significantly correlated with ninth-grade achievement.

Worthington III, George B., & Bening, Mary Ellen. Use of the Kaufman Assessment Battery for Children in predicting achievement among students referred for special education services. *Journal of Learning Disabilities*, June/July 1988, *21*, *370-374*.

Investigates the predictive validity of the Kaufman Assessment Battery for Children (K-ABC) for children of different racial and ethnic backgrounds. A sample of 33 black children, 33 Hispanic children, and 33 white children were selected from a pool of pupils referred for special education testing and matched in terms of age, grade placement, and socioeconomic background. The reading, mathematics, and written language scores from the WJPEB served as criterion variables. Selected scores from the K-ABC were combined to form a Mental Processing Composite (MPC) score which served as the predictor variable. Data analyses found no significant differences among the slopes of regression lines for black, Hispanic, and white children when K-ABC was used to predict MPC scores. No significant differences were found between sexes when predicting written language achievement. The K-ABC MPC scores were not valid predictors of written language for females.

Gallivan, Joanne. Concept knowledge as a predictor of first- and fourth-grade reading achievement. *Perceptual and Motor Skills*, April 1988, *66*, 407-410.

Compares the *Boehm Test of Basic Concepts* and the *Gates-MacGinitie Readiness Skills Test* on predicting reading achievement test scores in grades 1 and 4. Both tests were administered in September of first grade to 184 children in three elementary schools in Nova Scotia. The GMRTs were given in May of grades 1 and 4. Full data were available for 122 children. Pearson coefficients of correlation at grade 1 for Total Reading on the GMRT were .33 with the Boehm and .44 with the readiness test; at grade 4, coefficients were .48 with both instruments.

PITTS, SANDRA K., & HIRSHFIELD, GEORGE. Three spelling measures as correlates of reading ability in underprepared college freshmen. *Reading Horizons*, Winter 1987, *27*, 103-111.

Explores the relation between reading and spelling scores and among three spelling measures for subjects enrolled in university basic skills English classes. Subjects were 28 males and 43 females, ranging in age from 16 to 60; most were Native American or Hispanic. Subjects completed the NDRT, the multiple-choice spelling test of the CTBS, the spelling dictation section of the WRAT, and produced an in-class written essay of approximately 500 words. Essays were examined for the proportion of total words spelled correctly. Multiple regression analysis suggested that the three spelling measures accounted for 33% of the variance on the NDRT vocabulary score, 26% of the variance in the NDRT comprehension score, and 36% of the variance on the NDRT total reading score. Pearson product moment correlation coefficients among the three spelling measures were significant. The CTBS spelling score was the best predictor of each NDRT subtest score. The investigators conclude that spelling tests can be a good predictor of general reading ability, and could be included in a screening process for basic skills classes.

GADZELLA, BERNADETTE M.; GINTHER, DEAN W.; & WILLIAMSON, J. DAVID. Study skills, learning processes and academic achievement. *Psychological Reports*, August 1987, *61*, 167-172.

Examines relationships among scores on the CAI *Study Skills Test*, the *Inventory of Learning Processes* (ILP), and GPA. Subjects were 132 undergraduates enrolled in a psychology class. The CAI is a 200-item true-false self-reporting instrument designed to determine general study skills. The ILP consists of 121 true-false items. Responses are reported in four scales: Deep Processing, Elaborative Processing, Fact Retention, and Methodical Scale. Pearson product moment correlation coefficient between the Deep Processing scale and the total CAI score was .33. With various subscales on the CAI, the Deep Processing Scale coefficients ranged from .00 to .31. Deep Processing Scale and GPA correlated .24. Coefficients between the other ILP scales and study skills tended to be lower than those above. Students were termed deep or shallow processors depending upon their Deep Processing scale score. While there were consistent differences between deep and shallow processors on selected study skills scales, the differences were not significant.

SHAUGHNESSY, MICHAEL F., & EVANS, ROBERT. Word/world knowledge: Prediction of college GPA. *Psychological Reports*, December 1986, *59*, 1147-1150.

Explores five indices to determine which best predicts college (GPA). Subjects were 103 women and 78 men, ranging in age from 17 to 34. Most were elementary and secondary student teachers; 36 were freshmen enrolled in introductory psychology courses. Subjects were administered the NDRT as an index of rate and comprehension; the PIAT as an index of general world knowledge; and the PPVT-R, as an index of word knowledge. High school and college GPAs were also gathered. Scores were analyzed by multivariate step-wise procedures. For both groups, high school GPA and the raw score from the PPVT-R were the best predictors of college GPA. High school GPA was the best single predictor. The authors urge caution in interpretation, based on subjects' failure to obtain a basal level on both the PPVT-R and the PIAT.

LEE, JAMES F., & MUSUMECI, DIANE. On hierarchies of reading skills and text types. *Modern Language Journal*, Summer 1988, *72*, 173-187.

Tests the validity of a hierarchical model of second language reading proficiency defined by levels of both text types and specific reading skills. The model was assessed by examining the predictive validity of a reading test designed to reflect the hierarchical defini-

tion and used to measure college students' acquisition of skill in reading Italian. To construct the research instrument, text types characteristic of five different levels of reading proficiency were identified, and questions that would tap the reading skills characteristic of the different levels of proficiency were written. The instrument contained 11 texts and 44 tasks arranged in random order to avoid any bias in presentation. The tasks were reviewed by a native speaker of Italian to verify that they were within the boundaries of the text and within the realm of a native speaker's interpretation of the text. For this study, 73 subjects enrolled in four levels of undergraduate, lower division Italian courses were tested. The sample included 26 first semester, 28 second semester, 5 third semester, and 14 fourth semester students. The results of data analyses revealed serious doubts about the validity of the model. There was no evidence to support the proposed hierarchy of text types, the proposed hierarchy of reading skills, performance on higher level proficiency tasks subsuming lower ones, or a developmental pattern such that second-year students comprehended better than first-year students. The model lacked predictive capability with regard to performance on specific text type and/or on specific reading skills, as devised here.

FELDT, RONALD C. Reading comprehension and critical thinking as predictors of course performance. *Perceptual and Motor Skills*, April 1989, *68*, 642.

Seeks to find whether prediction of performance in an introductory psychology class is enhanced by adding a measure of critical thinking to a reading measure. Students were administered the Comprehension subtest of the NDRT and three subtests of the *Watson-Glaser Critical Thinking Appraisal*. Multiple regression analysis to predict total points earned in the course gave R^2 of .16 with NDRT comprehension and .29 when critical thinking was added.

V-13c Cloze testing

DESANTI, ROGER, J. Concurrent and predictive validity of a semantically and syntactically sensitive cloze scoring system. *Reading Research and Instruction*, Winter 1989, *28*, 29-40.

Assesses the concurrent and predictive validity of a cloze-based scoring procedure sensitive to both semantic and syntactic language performance. A total of 408 subjects demonstrating average reading achievement levels on the CTBS and representing grades 4, 6, 8, 10, and 12 were selected from a large suburban public school system. Each participant completed three alternative cloze passages yielding a total of 61,200 responses for analyses. Pearson product moment coefficients between the cloze procedure's interpretive scoring values and the subjects' CTBS scores were calculated to assess concurrent and predictive validity. Of the 324 correlations analyzed, 314 (97%) were statistically significant. The results indicated that the semantically and syntactically sensitive scoring procedure demonstrated acceptable concurrent and predictive validity for use with a variety of passages and grade levels.

CHANCE, LARRY L. Cloze tests and teacher-made tests: A comparison. *Ohio Reading Teacher*, Fall 1988, *23*(1), 6-10.

Examines the relation between pupil performance on cloze tests constructed on a content textbook with performance on teacher-made tests covering the same subject matter. Twenty-five eighth-graders were administered three measures for each of five chapters of an American history textbook. First, they took a cloze pretest based on a 300-word section from the beginning of each chapter. Second, they completed a teacher-made test consisting of multiple-choice and fill-in-the-blank items on the content of each chapter. Third, they took a cloze posttest based on a 300-word passage from the end of the chapter. No significant coeffi-

cients of correlation were found between differences in pretest-posttest cloze scores and scores on the teacher-made test. However, posttest cloze scores were significantly higher than pretest cloze scores on four of the five chapters.

PIPER, TERRY, & MCEACHERN, WILLIAM ROSS. Content bias in cloze as a general language proficiency indicator. *English Quarterly*, 1988, *21*(1), 41-48.

Examines the effect of passage content on the cloze scores of English learners in the People's Republic of China. A repeated measures design was employed. Adult college students with English proficiency, but limited exposure to American culture, were administered two cloze tests. One test was based on a science article about the evolution of life on earth; the other test passage described a wedding held in a California meadow. Contrary to what was expected, the subjects scored significantly higher on the wedding passage whether scored for exact replacements or semantic equivalents. The influence of prior knowledge and text type were discussed.

V-13d Test uses and purposes

FARR, ROGER. Can minimum competency tests have a positive impact on education? In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 151-161.

Discusses the widespread use of minimum competency tests. After a brief history of minimum competency testing and factors that have contributed to its growth, a number of specific issues were discussed. Among the concerns raised were using minimum competency tests for inappropriate purposes, using such tests as the sole determiner for remedial instruction, relying on a single standard for all students, and determining the content of minimum competency tests and the impact such tests have on curriculum.

MARGOLIS, HOWARD, & MCCABE, PATRICK. The use of test results by elementary school teachers to place students in basal and content materials. *Ohio Reading Teacher*, July 1988, *22*(4), 6-14,

Examines the practices and beliefs of classroom teachers in placing pupils in basal programs and content materials. A 25-item questionnaire was completed by a sample of 65 rural and suburban elementary teachers. The questionnaire surveyed placement practices for basal programs and content materials as well as teachers' perceptions of ideal practices. A breakdown of responses was provided for each item of the questionnaire. Seventy-nine percent of the teachers reported using some type of IRI for basal placement; but only 24% used IRIs for placement in content materials. Sixty percent of the teachers used standardized reading test scores to place children in basals, but only 19% did so for content materials. In spite of the seemingly widespread use of test results for placement, most teachers admitted assigning pupils to the basal or content textbook recommended for that grade level.

TODD, DIANNE, & COHEN, LIBBY. Curriculum based assessment and instruction in reading: An action research study. *New England Reading Association Journal*, Autumn 1988, *24*(3), 11-16.

Explores the usefulness of curriculum based assessment (CBA) measures of reading for pupils in second, fifth, and seventh grades in one school in central Maine. The measures were developed by the school's literacy curriculum committee and reflected process definitions of reading and writing. Test passages included narrative and expository prose; all questions required open-ended responses. Tests were administered untimed to 41 second graders, 27 fifth graders, and 30 seventh graders. They were scored by 14 teachers trained to evaluate responses. Initially, two evaluators scored each test. Any discrepancies noted by a third re-

viewer were resolved by the two scorers. Interscorer agreement was found to be 90% or better; internal consistency for each of the measures was at least .80. Item analyses revealed that not all higher order questions were text dependent. Pupil performance was reported by presenting mean scores, standard deviations, and percentages who scored at or below the mean at each grade level. It was suggested that percentile scores could be used to report individual's performance, and test results could be analyzed to determine instructional needs.

MARSHALL, NANCY. Discourse analysis as a guide for informal assessment of comprehension. In James Flood (Ed.) *Promoting Reading Comprehension*. Newark, DE: International Reading Association, 1984, 79-86.

Reviews research on the nature of discourse and draws implications for developing informal assessment measures of comprehension. The reviewer presents a categorization scheme for regarding the forms and functions of discourse. Suggestions are offered for both assessment and instruction for the six different forms of discourse that emerged (narration, lyric, directions, persuasion, temporal exposition, and topical exposition).

AUBRET, J., & CHARTIER, D. Reading assessment and illettrisme. *Educational Psychology*, 1988, *8*(4), 271-279.

Discusses the scope and consequences of functional illiteracy in industrial countries with reference to observations of the French educational context and reviews procedures for the assessment of reading skills. The discussion divides forms of assessment into two categories: the global approach and the analytical approach. The global approach was characterized by assessment of reading competence through results obtained on reading tasks. Resulting data were mainly obtained from classic psychometric measures and thus were liable to the same drawbacks as observed when these methods were used in other domains. The analytical approach was based on the identification of elementary skills and strategies implemented by the reader, as defined by underlying reading, and the reader models which make implicit reference to the reader's metalinguistic competence acquired primarily through the learning of grammar. Examples of studies using the alternative approaches were reviewed and suggestions for further research were presented.

V-13e Test reliability and validity

MANCUS, DIANNE S., & PRINCE, AMBER T. Preparing children for the reading test or teaching the universe of discourse. In Donavon Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.) *The Dilemmas of Teaching Reading*. Eighth Yearbook of the American Reading Forum, 1988, 44-50.

Examines three reading tests to determine whether test passages and questions formed complete units of communication, or discourse. For this study discourse meant the sender, the receiver, and the purpose of the text could be identified or inferred. A second, related consideration was whether test questions directed readers to consider the sender, the receiver, and/or the intended purpose of the message. All items from the reading sections of the ITBS, Level 11 (fifth grade); *HBJ Bookmark Reading Program Cumulative Test*, Level 11 (fifth grade); and *Georgia Criterion Referenced Test*, Edition 3 (fourth grade) were analyzed. Each passage and question item were independently reviewed by two examiners. Percentage of discourse passages as compared to total passages was calculated for each of the tests. Sender, receiver and purpose related questions were tabulated and considered in proportion to all other types of questions for each test examined. Results revealed that narrative, topical exposition, directions and temporal exposition were the most commonly used text structures included in the test passages. Direction and topical exposition sections generally met the

conditions for discourse; the narrative and temporal exposition passages were least likely to be coded as complete units of communication. The highest percentage of discourse passages was found in the ITBS, while the lowest percentage of discourse passages was in the criterion-referenced test. Analysis of the questions indicated that all three tests included some questions which addressed the purpose, while less than one percent directly addressed the receiver of the communication. Only the ITBS included any sizeable proportion of questions which referred to the sender.

WEBSTER, RAYMOND E. Variability in reading achievement test scores as related to reading curriculum. *Educational and Psychological Measurement*, Autumn 1988, *48*, 815-825.

Compares the words found on four standardized achievement tests and three criterion-referenced instruments with the words appearing in five series of basal readers at third grade level. The word recognition subtests of the WRAT-R, PIAT, CAT, and WRMT; selected sections of the GORT, Silvaroli *Classroom Reading Inventory*, and the Spache DRS were the instruments analyzed. Words included in the basal readers were cross-referenced with words found on the tests. Test scores were then computed by summing the total number of words matched in each test and basal reader and converting the total to a corresponding grade level as noted in the test manual. Two major patterns were found in the data analysis. First, wide variation existed among the reading series in terms of their overlap with each test. Two tests were found to deviate substantially from the reading programs. The CAT consistently overestimated performance while the PIAT consistently underestimated performance. The second major pattern that was found was the consistency of test scores across reading instructional programs.

HILDEBRAND, MYRENE, & HOOVER, H.D. A comparative study of the reliability and validity of the Degrees of Reading Power and the Iowa Tests of Basic Skills. *Educational and Psychological Measurement*, Winter 1987, *47*, 1091-1098.

Compares the validity and reliability of the DRP and the vocabulary and comprehension subtests of the ITBS. A sample of 377 fifth through seventh grade pupils were administered both the DRTP and the ITBS. Internal reliability coefficients for both tests were high (.80s and .90s), with those of the DRP being higher because of its greater length. Intercorrelation coefficients among the DRP and the ITBS were substantial (.70s and .80s), suggesting strong concurrent validity. Coefficients were also calculated between test scores and basal reading level and grades. The ITBS Vocabulary score was found to be the best predictor of reading series level and the DRP score the best predictor of teacher-assigned grades.

TUNNELL, MICHAEL O.; CALDER, JAMES E.; & JUSTEN III, JOSEPH E. A short form reading attitude survey. *Reading Improvement*, Summer 1988, *25*, 146-151.

Reports the efforts to develop and field test a reading attitude survey. A five-point Likert scale consisting of thirty-two items was developed. Nineteen of the items were taken from other attitude scales and 13 items were written by the authors. The instrument was field tested on 29 children from grades 2, 4, 6, and special education. Performance on individual items was correlated with scores on the total survey. Items yielding coefficients below .50 were deleted, resulting in a final survey of 18 items. The complete original and revised versions of the survey were included.

GILLIS, M.K., & OLSON, MARY W. Elementary IRIs: Do they reflect what we know about text type/structure and comprehension? *Reading Research and Instruction*, Fall 1987, *27*, 36-44.

Examines elementary level passages from selected informal reading inventories (IRI) in terms of text type and text structure. Four IRIs were selected for analysis: Basic Reading

Inventory, Classroom Reading Inventory, Analytic Reading Inventory, and Informal Reading Assessment. Eighteen graduate students enrolled in a reading diagnosis course served as the raters. All were trained to identify text type (narrative or expository) and the text structure (well-formed or poorly-formed). Each rater independently examined at least three IRIs. Interrater reliability coefficients ranged from .84 to .98. The raters classified the preprimer through third-grade texts as narrative 85% of the time and expository 15% of the time. Texts at the fourth- through sixth-grade levels were classified as narrative 52% of the time and expository 48% of the time. Interrater reliabilities for the well-formed/poorly-formed narrative decisions ranged from .36 to .99. Across inventories the raters judged the narrative passages as well-formed 52% of the time and poorly-formed 48% of the time. Raters also made judgments as to which of seven rhetorical structures the expository passages represented, but the ratings yielded too few numbers per cell for the reliability ANOVA. It is concluded that the lack of continuity in text type and organization could result in children's comprehension scores being erratic and invalid, with low instructional levels being assigned on the basis of these inventories.

CHAPMAN, JAMES W., & BOERSMA, FREDERIC J. Student's Perception of Ability Scale: Comparison of scores for gifted, average, and learning disabled students. *Perceptual and Motor Skills*, August 1986, *64*, 57-58.

Examines the power of the *Student's Perception of Ability Scale* to differentiate among gifted, average, and learning disabled pupils. Subjects were 35 gifted, 74 average, and 86 learning disabled pupils from Form 2 (grade 6) classes at five public schools. The scale was administered orally in regular classroom groups at the end of the academic year. Mean full and subscale scores for the three groups were treated by one way analyses of variance. Of the six subscales, only Penmanship/Neatness did not yield a statistically significant difference among groups. Scheffé comparisons of means showed that in all cases, each group was significantly different from the other groups. The researchers conclude that the scale does not have a ceiling effect preventing differentiation of gifted pupils from those of other ability levels, and that the ability to discriminate among students adds support to the instrument's construct validity.

SIMPSON, ROBERT G., & HALPIN, GERALD. The effects of altering the ceiling criterion on the Passage Comprehension Test of the Woodcock Reading Mastery Tests. *Educational and Psychological Measurement*, Spring 1987, *47*, 215-221.

Explores the effects of three alternative methods of setting the ceiling level on the Passage Comprehension Test of the WRMT. A sample of forty WRMT protocols from adolescents previously tested in a clinical setting were retrieved and rescored using three different criteria: (1) five errors in six consecutive responses; (2) five errors in seven consecutive responses; and (3) three consecutive errors. Internal reliability estimates computed for each scoring method were found to be virtually the same (.93). Each of the alternative scoring methods correlated highly (.98 to .99) with the recommended scoring procedure. Correlation coefficients between each scoring method and IQ were very similar, ranging from .40 to .44. ANOVA of the mean scores yielded by each of the scoring methods resulted in significant differences. Bivariate regression equations were provided so that scores obtained from alternative scoring procedures could be converted to equivalent scores using the WRMT norms tables. Results indicated that the alternative scoring procedures reduced the testing time by decreasing the number of items administered.

MARCHANT III, HORACE G.; ROYER, JAMES M.; & GREENE, BARBARA A. Superior reliability and validity for a new form of the sentence verification technique for measuring comprehension. *Educational and Psychological Measurement*, Autumn 1988, *48*, 827-834.

Compares the reliability and validity of the Meaning Identification Technique (MIT) with that of the Sentence Verification Technique (SVT). The MIT is an alternative version of the SVT. Unlike the SVT which yields four item types (originals, paraphrases, meaning changes, and distractors), the MIT uses only two item types, (paraphrases, and meaning changes of paraphrases). A sample of 103 college students was randomly assigned to either an MIT or SVT condition. Reliability estimates were found to be higher for the MIT (.63) than for the SVT (.53). Course exam scores served as the criterion variable in estimating predictive validity. Regression analyses found that SVT scores accounted for 6 to 8% of the variance in course exams but that the prediction coefficient for the MIT was two to three times as large.

PERKINS, KYLE. An analysis of four common item types used in testing EFL reading comprehension. *RELC Journal*, December 1984, *15*(2), 29-43.

Seeks to determine the extent to which different item types commonly used in English as a Foreign Language (EFL) reading comprehension tests produced reliable and valid estimates of the reading comprehension of a sample of 19 Egyptian adults enrolled in EFL courses at the American University in Cairo. Four different item types to test EFL reading comprehension were employed in this research: true/false items based on a reading passage, multiple-choice comprehension questions based on a reading passage, a missing letters format in which certain letters of missing words are given and each dash in the blank signifies a letter, and a grammar paraphrase test which required the subjects to identify the correct paraphrase of the stimulus from four options. For the four tests the following test statistics were calculated: mean, SD, SEM, KR-20 observed reliability, 100-item reliability, item difficulty as proportion correct, item discriminability for each item computed as a point biserial correlation coefficient between item responses and total scores for each test, item variance, internal construct validity proportion, maximum validity, and SMOG readability level (except for the grammar paraphrase test). Even after Spearman Brown Prophesy Formula was used to estimate reliability extended to 100 items, only two tests exhibited acceptable reliability estimates (true-false and multiple-choice). Overall, the multiple-choice and true-false tests produced more useful information about the subject pool and the highest coefficients. When tests were rank-ordered by validity coefficients and SMOG readability, there was evidence of the effect of passage readability on test items' construct validity.

V-14 Instructional time

BREKKE, GERALD, & CHEW, STEPHEN L. Regional changes in time allocated to reading by elementary schools between 1961 and 1985. *Reading Improvement*, Spring 1989, *26*, 15-20.

Compares time allocated to reading in the elementary school grades in 1985 with time allocated in 1961. Comparisons were made for basal reading and for other reading for a sampling of the same school districts in the two time periods. Mean weekly time allotments for both types of reading were found to have increased at each grade level, one through six. At the upper elementary grades, increases in time were statistically significant for basal reading only, while the reverse was true for the lower grades. Comparisons were then made on a region-by-region basis in eight geographic regions. Found were 22 statistically significant comparisons, only three of which were decreases in the time allotments of 1985 over 1961.

REX, LINDA. Curricular reading time: Do we allocate enough of it? *New England Reading Association Journal*, Autumn 1988, *24*,(3), 2-7.

Investigates the correspondence between time allocated for reading instruction and performance on the Massachusetts Educational Assessment Program for junior high schools

in six districts in Massachusetts. Number of minutes of reading instruction offered the average pupil per week in grades 7 and 8 in each district was determined. Mean scaled scores for each district resulting from the state assessment were graphed with indication of expected student performance from communities of similar composition. A tendency for students from schools giving more curricular time to reading instruction to score higher on the state test was suggested.

V-15 Technology and reading instruction

REINKING, DAVID, & WU, JEN-HUEY. Reading vs. television: Will we ever have the answer? *Georgia Journal of Reading*, Spring/Summer 1988, *13*(2), 34-41.

Summarizes briefly the research on the relation between television viewing and reading. Concludes that the research points out the relation is complex and may never be fully delineated. Notes that there are many interacting factors involved, including age, home environment, type of program watched, and the ratio of reading to television viewing. Also noted is support for the notion that extreme amounts of viewing have a negative impact on reading achievement as well as on general academic achievement. Discussed also is how the research illustrates the problems associated with researching practical issues, but states that seeking responses to instructional problems remains important even though definitive answers may not be found.

RIDING, R.J., & POWELL, S.D. The effect on reasoning, reading and number performance of computer-presented critical thinking activities in five-year-old children. *Educational Psychology*, 1987, *7*(1), 55-65.

Studies the effect of computer-presented critical thinking activities on reasoning and on rates of progress in reading and mathematics. Subjects were 64 five-year-olds drawn from three classes in a British urban primary school. Pre- and posttest performance was assessed on Raven's *Coloured Progressive Matrices*, the *Break-through to Literacy Reading Scheme*, and a test of mathematics. On the basis of pretest results, children were randomly divided, within sexes, into two groups similar in CA and scores on the three tests. Experimental children worked on the computer-presented thinking activities while controls worked on other tasks. All children worked individually with adults over a period of 13 weeks. Posttest results showed a significantly greater improvement over pretest performance for experimentals than for controls on the Raven's Matrices. This finding held for both high and low initial performance children. In reading, low initial experimental children improved significantly more than controls. No significant differences were found between groups for mathematics.

CLEMENTS, DOUGLAS H., & MCLOUGHLIN, CAVEN S. Computer-aided instruction in word identification: How much is enough? *Educational and Psychological Research*, Summer 1986, *6*, 191-205.

Evaluates the effects of computer-aided instruction (CAI) on first grade readers' context-independent word identification. Five pupils identified by their teacher as making the least gains in sight word acquisition experienced sixteen 25-minute sessions of CAI over a four week period. Practice programs included both commercial materials and researcher-designed programs which involved word matching, identification, or related tasks. Effects were measured using pre- and post-treatment, computer-based assessments of both accuracy and rate of response. Two tests, representing two levels of word difficulty, were developed. Most test words (90%) were taken from the Dolch list; the remainder were nouns selected from preprimer and primer level basal readers. Results, percentages of words identified correctly on the two levels, indicated increased accuracy scores for participants. Response rate

was not affected. Examination of learning curves indicated similar performance for subjects with all achieving high levels of accuracy between 12 and 15 sessions.

MacGregor, S. Kim. Use of self-questioning with a computer-mediated text system and measures of reading performance. *Journal of Reading Behavior*, 1988, *20*(2), 131-148.

Investigates the effects of a computer-mediated text system (CTS), designed to facilitate use of questioning strategies, on third grade pupils' performance on vocabulary, comprehension, and prediction measures. The subjects were 48 third graders of average and good reading achievement (GMRT), assigned randomly to one of three experimental and one control treatment conditions. In the experimental conditions, pupils read passages using the CTS and were trained to generate questions for clarification and/or focus of attention. Pupils in the control condition read passages printed on paper and did not receive any questioning training. The *Nelson Reading Skills Test* and an assessment of ability to predict reading performance were administered as pre- and posttreatment measures. Results supported the hypothesis that the CTS would be an effective approach for teaching pupils to generate questions to improve reading performance. Additional findings revealed that average readers made significantly greater gains than good readers in comprehension and vocabulary knowledge, whereas good readers made greater gains in ability to predict vocabulary performance. The findings indicated that third grade pupils of average reading ability can learn how to use a reading strategy and apply it to a reading task.

Horton, Steven V.; Lovitt, Thomas C.; Givens, Alex; & Nelson, Robin. Teaching social studies to high school students with academic handicaps in a mainstreamed setting: Effects of a computerized study guide. *Journal of Learning Disabilities*, February 1989, *22*, 102-107.

Compares the effectiveness of a computerized study guide and notetaking procedure on the textbook comprehension of ninth-grade learning disabled and remedial students in a world geography class. Students in two intact classes were randomly assigned to experimental and control groups. Students in the control group completed two comprehension tasks based on the textbook without any instructional intervention. Students in the experimental group were assigned to either a notetaking condition or the computerized study guide. The notetaking condition was intended to assess independent study strategies. The computerized study guide involved the use of adjunct questions. The posttest scores on a multiple-choice comprehension test revealed a significant difference in performance favoring those students who had used the computerized study guide. The results applied to both learning disabled and remedial students.

Horton, Steven V.; Lovitt, Thomas C.; & Givens, Alex. A computer-based vocabulary program for three categories of student. *British Journal of Educational Technology*, May 1988, *19*, 131-143.

Reports two experiments designed to test the effects of computer-based instruction on the vocabulary achievement of three groups of high school learners: remedial readers, learning disabled students, and general education students. The first study involved seven remedial readers and six learning disabled students enrolled in a remedial ninth-grade world geography class. Sixty vocabulary items were selected from the geography content and pretested to determine difficult words for further study. Of the 35 words identified, 28 were assigned to a computer program involving a pretest, practice, and posttest sequence. Seven items were designated as control items; they were included in the posttest, but were not taught in the computer program. Students were given three computer sessions on consecutive school days, with a written multiple-choice test following each session. Results indicated a significant gain

on computer items after the first computer session for the remedial students, and after the second session for students with learning disabilities. Performance on control items did not improve across measures for either group. The second study included 36 general education students enrolled in two ninth grade health classes. A pretest of 50 vocabulary terms from the health text resulted in identification of 35 words for further study. A pretest-posttest control group design was employed, and the experimental group, one randomly selected class, received two computer sessions focused on the target words. Results confirmed that the computer-based instruction was effective for the general education students.

MIKULECKY, LARRY; CLARK, ELSIE S.; & ADAMS, SUSAN MCINTYRE. Teaching concept mapping and university level study strategies using computers. *Journal of Reading*, May 1989, *32*, 694-702.

Investigates the effects of three interactive computer programs (CAI) and associated print materials in instructing and modeling for university students how to comprehend and reconceptualize scientific textbook material using cognitive and metacognitive reading strategies. Subjects included 50 second semester college freshmen who were studying biology. They volunteered to participate and were divided into treatment and control groups matched on SAT verbal scores, rank in their high school graduating class, and university grade point average from the first semester. Both treatment and control students read two 7-10 page chapters representing content typical of college level biology texts. The treatment followed reading of the first chapter and involved three 30-40 minute CAI lessons scheduled one week apart. Using content from the first passage, these programs modeled how to 1) identify key concepts, 2) write linking summary statements comparing and contrasting key concepts, and 3) graphically map relationships among key concepts. The second chapter was read by both groups without intervention. Chapter examinations were administered to test ability to identify key ideas, to compare and contrast ideas, and to depict relationships among ideas. The treatment group scored significantly higher on the two exams. Their significantly higher performance on the second exam read without aid of the computer program suggested transfer of the reading strategies reinforced by CAI. It was also observed that the treatment group outperformed the control group on a subsequent test in biology. Assessment of students' attitudes toward the computer programs revealed very positive reactions with no significant differences in relation to the different sections of the programs.

SHERWOOD, ROBERT D.; KINZER, CHARLES K.; BRANSFORD, JOHN D.; & FRANKS, JEFFERY J. Some benefits of creating macro-contexts for science instruction: Initial findings. *Journal of Research in Science Teaching*, May 1987, *24*, 417-435.

Reports two studies conducted to assess the effects of video-based macro-contexts on the retention and application of science concepts. Macro-contexts, contexts for learning and problem-solving, were established by presenting video taped segments of popular films, e.g., *Raiders of the Lost Ark*. In the first study the intervention of video segments and organizing questions yielded positive results when compared to simple reading of material for four classes of seventh and eighth grade pupils tested on a delayed quiz (24 hours) of the content presented. The second study involved 128 undergraduate college students in a general psychology course who were asked to read and respond to science passages. The use of organizing questions that related science information to the video context facilitated students' ability to free recall science information, and it increased the probability of students' applying that information to solve new problems.

FEELEY, JOAN T., & WEPNER, SHELLEY B. Rate improvement in college: The computer vs. traditional text. *Forum for Reading*, Fall/Winter 1988, *20*, 9-13.

Contrasts two approaches to improving reading rate with college students: a commercially prepared computerized speed reading program and a traditional printed text. Subjects

were 26 students assigned randomly to experimental and control conditions. Students were given the same passages to read each week of the program; both groups had control over their rate. Reading efficiency was calculated as the product of speed and comprehension over the passages read. The Fast Reading section of the SDRT was used for pre- and posttesting, and an attitude survey was administered prior to the posttest. All students, regardless of condition, made real gains in rate on the SDRT. The difference between the two groups was not significant.

MACLAY, CONNIE M., & ASKOV, EUNICE N. Computers and adult beginning readers: An intergenerational study. *Lifelong Learning*, June 1988, *11*(8), 23-25, 28.

Examines the effect of CAI on the reading achievement of nonreading parents of children receiving Chapter I assistance and explores the effect of parents' participation in reading improvement study on the school attendance patterns of their children. The goal of CAI was to improve word recognition skills through a whole word approach. Programs were offered at 46 sites in Pennsylvania and four alternative program models were applied. These included either one or both parents without children present or one or both parents accompanied by child/children. Parents were invited to participate by Chapter I teachers; however, only those scoring below a fourth grade reading level were included in the study. Fifty two parents completed the required 20 hours of instruction. Twenty four parents qualified for participation but were unable to attend sessions and comprised a control group. Reading achievement was assessed by pre- and posttreatment administrations of the SORT, the *Baltimore County Design*, and the *Bader Reading and Language Inventory* to experimental and control subjects. Children's attendance data were collected for the three months immediately preceding and the three months immediately following the parents' program. ANOVA for repeated measures revealed significant differences between pre/posttest scores for the experimental group on all four measures. Experimentals gained more than one year in reading level as a result of the CAI. No significant differences were found for the control group. Review of children's attendance records revealed that school attendance increased from 88/100 days prior to the parents' program to 95/100 days after the program, a statistically significant improvement. Review of the alternative program models suggested that while all four are viable, success related to the needs and preferences of the parents.

WANGBERG, ELAINE G. An interactive, language experience based microcomputer approach to reduce adult illiteracy. *Lifelong Learning*, February 1986, *9*(5), 8-12.

Reports pilot studies and field testing of interactive, language experience software to promote functional literacy among illiterate adults. Two series of interactive software lessons were developed. The language experience lessons for the first series, designed for adults reading between grade levels 1.5 and 5, presented learners with a list of general topics of interest. After choosing a topic, the student was prompted by random, computer generated questions to input information about the topic. The original student input was stored for editing and/or rereading at later times. The second series required a reading ability of grade levels 3.5 to 7.9, presented the student with situations or survival topics from daily life, and encouraged the student to input original text regarding these topics. Two pilot studies were conducted with each software series at an adult education center located in the inner city of a large southern metropolitan area. Results of these studies demonstrated significant effects for participants as determined by various reading achievement measures: the *Nelson Reading Test*, the WRMT, and the *Degrees of Reading Power* (DRP) test. An eight week field test using a control and an experimental group was then designed to evaluate the two series of software. The design included a DRP pretest for both groups, traditional reading/language arts instruction or the experimental microcomputer software instruction, followed by an alternative form DRP posttest. On the basis of pretesting, 40 subjects (13 low, 14 mid, and 13 high on the DRP) were randomly assigned to the experimental or control group. Average total

hours of instruction for the control group was 22.1; average total hours for the experimental group was 21.7. Due to attrition, 10 of the control group students and 11 of the experimental group students were available for posttesting. The average gain in reading ability for the control group was 2.6 DRP units; the average gain for the experimental groups was 5.6 DRP units. When gains were converted to grade equivalencies, the control group showed no change in reading level, and the experimental group showed a one year increase to an average of grade level 6.

KLEINMANN, HOWARD H. The effect of computer-assisted instruction on ESL reading achievement. *Modern Language Journal*, Autumn 1987, *71*, 267-276.

Studies whether CAI in reading has a differential effect on the reading achievement of non-native speakers of English enrolled in a basic skills college reading course. Subjects were 76 nonnative English speaking students representing 12 different native languages, who were enrolled in six classes taught by three instructors. The course was designed to help prepare students for a test mandated by the City University of New York for all incoming students and focused on developing critical thinking, comprehension skills, reading rate, and study skills. Each instructor taught one treatment class and one control class. Treatment included the conventional instruction as well as a CAI component (but no additional instructional time). The treatment group spent time every other week for 12 weeks working with CAI materials, whereas the control group received individualized instruction with access to a variety of reading materials. Students were administered equivalent forms of a reading comprehension test as a pre- and post-measure. Results of matched-pair t-tests indicated that both treatment and control groups made significant gains in reading achievement. Results revealed that while significant gains were made in reading achievement within control and treatment groups, no significant differences between control and treatment groups were found.

WRIGHT, A., & ANDERSON, M. Does a computer system help to teach a sight vocabulary to children with severe learning difficulties? *British Journal of Educational Technology*, January 1987, *18*, 52-60.

Investigates whether CAI is as effective as teacher-only instruction in teaching basic sight vocabulary to children with severe learning difficulties. Subjects (N = 18) were selected who had a basic sight vocabulary of fewer than 20 words and who were able to match pictures without error on an initial picture matching task. The age range was 4 to 18 years, with a mean age of 10-7 years. Subjects were matched for vocabulary age (*British Picture Vocabulary Scale*) and size of sight vocabulary and assigned to one of three groups: teacher/computer group; computer/teacher group; control group. Each group included six children. The two experimental groups received individual instruction in sight vocabulary using highly structured methods for eight minutes a day. Each experimental group was instructed in one condition (either teacher-only or CAI) for two weeks (10 sessions) followed by two weeks of instruction in the alternative condition. Two experienced teachers provided the instruction, and each teacher taught the same group of children throughout the experiment. The control group received individual instruction in mathematics. Measures were number of words learned each session and total number of words acquired over the two-week instructional condition. The result showed that the 12 children in the experimental groups improved their sight vocabulary. Trends in the data indicated that the teacher-only condition produced better learning than the CAI condition, and this was particularly true for the children with lower verbal ability.

TORGESEN, JOSEPH K. Computers and cognition in reading: A focus on decoding fluency. *Exceptional Children*, October 1986, *53*, 157-162.

Reviews selected research examining the effects of computer based practice on the development of decoding skills and increased fluency in word reading with learning disabled

pupils. Positive effects resulting from a limited number of studies were reported. Noting that the evidence is incomplete, the author suggested that applications of integrated sets of computer based activities could have a substantial impact on the decoding skills of children with reading disabilities.

V-16 Characteristics of effective reading

FILLION, BRYANT, & BRAUSE, RITA S. Research into classroom practices: What have we learned and where are we going? In James R. Squire (Ed.) *The Dynamics of Language Learning*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills, 1987, 201-225.

Reviews studies of classroom practices and considers implications of the research for improving children's language development and use. An overview of classroom research was provided with reference to studies conducted for five distinct purposes: 1) to increase understanding of classrooms as educational environments; 2) to identify classroom factors likely to influence children's linguistic development and achievement of desired outcomes; 3) to determine how predetermined constructs, such as comprehension instruction or composition instruction, were manifested in classrooms; 4) to examine the relation between actual practices and observed outcomes; 5) to detail language processes and developments as they occur in schools. Procedures and limitations of previous studies were detailed with indication that the narrow focus of many studies precluded generalizable findings. Recommendations for future research focusing on the ways language-learning behaviors are manifested and interact with complex classroom variables were suggested.

FRAGER, ALAN, & HAHN, AMOS. Turning contemporary reading research into instructional practice. *Reading Horizons*, Summer 1988, *28*, 263-271.

Reviews selected research focusing on four areas of contemporary reading research: direct teacher explanation, the reading-writing connection, top-level text structure (description, sequence, enumeration, compare-contrast, problem-solution), and main idea identification. The discussion suggested instructional practices and emphasized that student improvement will result from teacher modeling and direct explanation of specific reading strategies which have been demonstrated to be effective for improving comprehension.

CUNNINGHAM, JAMES W. Three recommendations to improve comprehension teaching. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 255-274.

Reviews research recommendations emanating from reading education, teacher effectiveness studies, and cognitive psychology to identify research-based strategies for teaching reading comprehension effectively. Although consensus on the best methods to teach comprehension was not apparent in the literature, some major areas of agreement were identified. Specifically, three strategies for enhanced comprehension instruction that emerged from the research included: 1) providing students with easy reading materials and comprehension tasks on which they can succeed, 2) teaching background knowledge and vocabulary simultaneously, and 3) using tested interventions to guide students' reading.

CARNINE, DOUGLAS, & GERSTEN, RUSSELL. The logistics of educational change. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 131-149.

Describes a comprehensive system of reading instruction that evolved out of a 14-year school improvement effort conducted by the University of Oregon Direct Instruction Follow Through Project. The primary objective of the Direct Instruction (DI) Model was to close the gap in academic achievement between educationally at-risk pupils and their middle class peers. The model was implemented in 20 communities and included inner-city areas, rural communities, and Indian reservations. The DI Model required major organizational changes in the nature of the curriculum, in how the curriculum was taught, and in the quality and quantity of feedback that teachers gave children and that supervisors gave teachers. In addition to the organizational changes, conceptual changes occurred; teachers began to modify how they thought about children and about learning. Major analyses, performed on end-of-third-grade reading scores on the MAT, showed that performance of participants were within 10 percentile points of the national average and were closer to the national norms than that of pupils taught by other methods included in a comparative study. In addition, the DI pupils scored higher on affective measures and were perceived by their parents as doing better academically. Critical components of the DI Model, including design of the curriculum, teaching procedures, implementation, pupil monitoring procedures, and teacher attitudes, were discussed with supporting research evidence indicated. It was suggested that implementation of a new model of instruction is facilitated by providing teachers with materials that emphasize clear instructional communication and by having supervisors who take an active and effective role in the classroom.

V-17 Role and effects of instructional research

AU, KATHERINE HU-PEI; THARP, ROLAND G.; CROWELL, DORIS C.; JORDAN, CATHIE; SPEIDEL, GISELA E.; & CALKINS, RODERICK. The role of research in the development of a successful reading program. In Jean Osborn, Paul T. Wilson, & Richard C. Anderson (Eds.) *Reading Education: Foundations for a Literate America*. Lexington, MA: D.C. Heath & Co., 1985, 275-292.

Discusses the system for reading instruction developed at the Kamehameha Early Education Program (KEEP), a successful reading program designed for disadvantaged children of Hawaiian ancestry, and highlights program research. Development and research efforts involved six years of study in the laboratory school to shape a successful prototype reading program for children in kindergarten through third grade and five years of refining the program and disseminating recommendations to public schools. The basic research approach was described as a "least-change" approach, duplicating a public school setting as closely as possible. Time schedules, classroom size, and teacher-pupil ratio were consistent with public schools. Two major differences included a higher proportion of children from families on welfare (75% of the total sample) and special facilities to observe and videotape classroom instruction. Studies of learner characteristics revealed that 1) Hawaiian children have the intellectual ability to learn to read, 2) they do not have any particular cognitive deficits, 3) dialect interference is not a major factor in hindering reading development, and 4) they are not difficult to motivate to work hard on learning to read tasks. In addition, it was determined that success resulted from a reading program that stressed comprehension and language development and included a teacher training program that minimized cultural conflicts and maximized learning by building on the children's natural strengths. The DEEP reading program that evolved was highly structured and demanding to teach. Thirty-four specific features that represent the particular set of conditions necessary for successful learning outcomes were identified. These were summarized in the following categories: a structured daily schedule, curriculum content, monitoring of student progress, direct instruction in small groups, language development, successful practice of reading skills, and cultural compatibility.

REINKING, DAVID. Getting the big picture: A recent example concerning the effects of reading on reading ability. *Georgia Journal of Reading*, Spring 1987, *12*(2), 24-29.

Argues against taking a narrow view of research findings, as such a view may lead to inappropriate or incomplete recommendations for instructional practice. Suggests the need to examine a broad range of research findings in order to synthesize principles for instruction, and gives an example of such an approach, using an article by Stanovich.

BEAN, THOMAS W. Classroom questioning strategies: Directions for applied research. In Arthur C. Graesser & John B. Black (Eds.) *The Psychology of Questions*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985, 335-358.

Discusses current understandings of classroom questioning strategies observed in conjunction with reading or comprehension instruction and suggests directions for applied research. The studies considered in this review were organized in three general categories: 1) unguided, Socratic questioning techniques, 2) guided approaches characterized by question classification schemes, adjunct question guides, and strategies for guiding discussion, and 3) student self-questioning. The research reviewed included recent efforts to field-test questioning strategies recommended in many methods texts for teachers. Because applied research in classroom questioning was considered relatively new by the author, conclusions were not delineated. It was suggested that applied studies of classroom questioning will be most useful if they are of long duration, use passages representative of normal text reading, and measure comprehension through a variety of dependent measures. It was additionally recommended that the classroom as a unit of study requires investigative strategies gleaned from a variety of disciplines such as experimental psychology, sociology, and anthropology.

SINGER, HARRY; WITH AU, RHODA; DREHER, MARIAM JEAN; NOLTE, RUTH YOPP; ROGERS-ZEGARRA, NANCY; SIMONSEN, STEPHEN; & YOPP, HALLIE KAY. Research on reading throughout the grades with practical applications for improvement of classroom practice. In Malcolm P. Douglass (Ed.) *Claremont Reading Conference Forty-Ninth Yearbook*, 1985, 208-228.

Reviews research the major author conducted over the previous three years with colleagues and graduate students. The studies cover testing and reporting practices, readiness factors, methods of instruction in reading acquisition, word recognition processes, teaching active comprehension, comprehension processes, the role of multiethnic literature, the scope of the curriculum in relation to comprehension, metacognition processes for critical reading, and the importance of coherence.

VI. *Reading of atypical learners*

VI-1 Visually impaired

HJELMQVIST, ERLAND. Daily newspapers for the visually handicapped. *Scandinavian Public Library Quarterly*, 1988, *21*(1), 20-24.

Refers to a series of Swedish studies of radio-transmitted braille and speech-synthesized daily newspapers conducted by members of the Department of Psychology at Gothenburg University. Three aspects of blind individuals' reading ability according to the radio transmission technique were carried out: (1) attitudes and reactions of the blind to the new technique, (2) the subjective reports of how and what was read, together with an analysis of

automatically registered aspects of the reading process, and (3) comprehensibility of the information presented in braille and speech synthesis mode, respectively. Subjects were blind adults, ranging in number between 5 and 60. A pilot study of book reading with two blind adults is also briefly reported. It is reported that the majority of subjects report the technique as superior to any other. In the largest study, reading activity averaged 48 minutes per day with a speed of about 142 words per minute. Newspaper content read most frequently were the front page, general information, local news, and editorials.

DANEMAN, MEREDYTH. How reading braille is both like and unlike reading print. *Memory and Cognition*, November 1988, *16*, 497-504.

Presents two experiments studying the relation between measure of braille comprehension ability and measures of listening comprehension and working memory capacity. Subjects in Experiment 1 were 31 blind adults; in Experiment 2, subjects were 32 normal seeing undergraduates. Blind subjects read two short passages and were to search for instances of the braille letter *h*. One passage was in regular prose form, and the other in scrambled-word form. Presentation of the two forms was counterbalanced across subjects. In another task, comprehension was monitored by having subjects read two 350-word expository texts while trying to identify words that had been misspelled. Listening comprehension was assessed by means of a passage read to subjects and followed by four multiple-choice questions. Braille span, listening span, and braille proofreading tasks were also administered. Subjects in Experiment 2 performed the identical *h* detection task as in Experiment 1, but with regular double-spaced print. This was followed by two 100-word passages in which the task was to circle all instances of the letter *t*. Sighted readers missed a disproportionate number of *h*s in the word *he* whether the prose was intact or scrambled. Blind subjects missed only a disproportionate number of *h*s in *he* when reading prose. Braille comprehension was correlated with listening comprehension and working memory capacity. Findings were interpreted as suggesting that there is a general verbal processing capacity common to both reading and listening which is responsible for individual differences in braille reading comprehension ability.

NEWMAN, S.E., & HALL, A.D. Ease of learning the braille and Fishburne alphabets. *Journal of Visual Impairment & Blindness*, April 1988, *82*, 148-149.

Compares the amount learned from the braille alphabet and the Fishburne alphabet after eight minutes. Subjects were 72 sighted male undergraduates who were given a study sheet with either one or the other of the alphabet symbols and their letter names, arranged either in three rows or in five rows. Subjects studied the alphabets visually for eight minutes and then were tested visually for symbol recognition. Performance was better for those who studied the Fishburne alphabet than for those who studied the braille alphabet, independent of the arrangement of items.

VI-2 Hearing impaired

LASASSO, CAROL. Survey of reading instruction for hearing-impaired students in the United States. *Volta Review*, February/March 1987, 85-98.

Surveys programs for the hearing-impaired in the U.S to determine instructional approaches used, perceived strengths and limitations of basal series used, measures and uses made of hearing-impaired students' reading levels, and readability issues raised. Questionnaires were mailed to approximately 1,500 known U.S. programs; usable responses were received from 478 programs representing more than 26,000 hearing-impaired students. Over 80% of programs indicated that they used the basal reading approach as the primary or supplementary approach to reading instruction; 75% indicated use of a language experience approach as the primary or supplementary approach. In 20% of responses, basals were used

because they were required by the state or local government or the school board; 54% of respondents checked that they felt the basal approach was the best approach. Of the 478 respondents, 86% indicated that they used standardized tests to calculate reading levels, and 37% checked that they used informal reading inventories. Reading levels were cited as useful in reporting to parents, selecting materials, and writing individual educational programs. Only 20% of programs use formal procedures to select materials for their hearing-impaired students.

ISRAELITE, NEITA KAY. On readability formulas: A critical analysis for teachers of the deaf. *American Annals of the Deaf*, March 1988, *133*, 14-18.

Cites research and other information in a discussion of the limitations of readability formulas as guides in developing and selecting reading materials for the hearing-impaired. In particular, aspects of text comprehensibility not considered by readability formulas are reviewed. Alternatives to the use of readability formulas are discussed.

THORN, SONDRA, & THORN, FRANK. Television and vision: Reading captions when vision is blurred. *American Annals of the Deaf*, March 1989, *134*, 35-38.

Examines the effect of reduced vision on ability to read captions on television. Six hearing-impaired and 14 hearing subjects, all adults, participated. All subjects had 20/25 visual acuity or better when wearing corrective lenses. Subjects viewed captioned segments of movies with the sound off. Captioned segments contained an average of 17 words and were displayed at the rate of two words per second. Subjects read the captions aloud as they appeared on the screen. Captions were read under five conditions of blur. Caption reading was affected by relatively small amounts of blur.

HUNT, ANNE M. What is the best way to teach reading to deaf children? *New England Reading Association Journal*, Spring 1989, *25*(2), 33-38.

Reviews briefly selected research findings on approaches to teaching deaf children to read. Six different communication systems may be used: American Sign Language, Fingerspelling, Manual Communication, Oral-Aural, Signed English, and Total Communication. Support was found for the argument that children with both oral and manual communications skills are better communicators. The author noted that deaf children must have their background experiences incorporated, must learn to communicate at an early age, need experience with the Deaf Community, and need more exposure to American Sign Language at home and in school in order for reading progress to be facilitated.

ISRAELITE, NEITA KAY, & HELFRICH, MARY ANNA. Improving text coherence in basal readers: Effects of revisions on the comprehension of hearing-impaired and normal-hearing readers. *Volta Review*, October/November 1988, *90*, 261-276.

Examines the effect of revisions in the text coherence of basal readers on the comprehension of hearing-impaired and normal-hearing children. Subjects included 15 hearing-impaired and 15 normal-hearing pupils, all of normal intelligence and placed at third grade reading level for instruction. Age range of the hearing impaired was 10-8 to 13-0, while normal-hearing pupils ranged in age from 8-7 to 9-2. Two stories selected from a second-grade basal reader were revised to improve overall readability and text coherence. Subjects received, in counterbalanced order, an original version of one story and a revised version of the other story to read and then to respond to 15 questions over each story. Revised stories resulted in significantly more correct answers than the original versions. Comprehension scores for the two groups did not differ significantly on the revised versions. Normal-hearing pupils performed equally well on the two types of stories, but hearing-impaired children performed significantly better on the revised versions.

LaSasso, Carol, & Davey, Beth. The relationship between lexical knowledge and reading comprehension for prelingually, profoundly hearing-impaired students. *Volta Review*, May 1987, *89*, 211-220.

Explores the relation between hearing-impaired students' lexical knowledge and their performance on reading comprehension measures. Subjects were 50 profoundly hearing-impaired students, aged 10 to 18 years. Scores on the reading comprehension subtest of the SAT ranged between 5.0 and 7.9. Predictor variables included the reading comprehension subtest of the SAT and the vocabulary subtest of the GMRT. Criterion comprehension measures were based on 15 passages ranging in length from 200 to 250 words. A cloze test and four question tasks (multiple-choice/lookback; multiple-choice/no lookback; free-response/lookback; free-response/no lookback) were constructed for each of the 15 passages. All question tasks consisted of 24 items while the cloze test consisted of 17 items. The proportion of the variance in criterion variables accounted for by the combined SAT-GMRT score was .44 for cloze, .51 for multiple-choice questions, .64 for free-response questions, .59 for lookback condition, and .62 for no-lookback condition. Findings are interpreted as supporting the contention that lexical knowledge is an effective predictor of reading comprehension performance for the hearing impaired, with the vocabulary subtest of the GMRT being a stronger predictor of performance than the SAT.

Diebold, Thomas J., & Waldron, Manjula B. Designing instructional formats: The effects of verbal and pictorial components on hearing-impaired students' comprehension of science concepts.

Contrasts the effectiveness of four different printed instructional formats on the comprehension of science information by 60 prelingually deaf subjects, ages 12 to 22. Participants came from one state residential school and two public day school programs. Subjects studied one of four randomly assigned formats describing basic science concepts taken from a sixth-grade science textbook. The formats were: (1) the standard text format, (2) a simplified text format, (3) a simplified text/labeled diagram format, and (4) a labeled diagram format. A 37-item posttest evaluated comprehension of content information. A 10-item pretest of questions drawn from the posttest was administered also. ANOVA results revealed that only the simplified text/labeled diagram and labeled diagram formats produced significant gain scores. Format differences were found between males and females, with only the labeled diagram format yielding significant mean gain scores for males while three formats yielded significant gain scores for females (simplified text, simplified text/labeled diagram, and labeled diagram).

Hanson, Vicki L., & Fowler, Carol A. Phonological coding in word reading: Evidence from hearing and deaf readers. *Memory and Cognition*, May 1987, *15*, 199-207.

Reports three experiments investigating the ability of prelingually, profoundly deaf readers to access phonological information during reading. Subjects in all three studies were students at Gallaudet College, a liberal arts college for deaf students, and numbered 16, 16, 15, respectively. In addition, normal hearing college students were also included in each of the experiments. The experiments incorporated a task previously used in which lexical decision response times (RTs) to orthographically similar rhyming and nonrhyming word pairs were compared with RTs to orthographically and phonologically dissimilar control word pairs. In Experiments 1 and 2, the nonwords were pronounceable. Deaf subjects and hearing subjects were facilitated in their RTs to rhyming pairs but not to nonrhyming pairs. In Experiment 3, the nonwords were unpronounceable, and both deaf and hearing subjects were facilitated in their RTs to both types of word pairs, with the facilitation being significantly greater for rhyming pairs. Results are interpreted as indicating that access to phonological information is possible despite prelingual and profound hearing impairment.

PAYNE, JOHN-ALLEN, & QUIGLEY, STEPHEN. Hearing-impaired children's comprehension of verb-particle combinations. *Volta Review*, April 1987, *89*, 133-143.

Reports a study investigating hearing-impaired subjects' understanding of English verb-particle combinations of varying syntactic and semantic difficulty. Subjects were 39 hearing-impaired students attending a residential school and six attending a self-contained program for hearing-impaired children. Subjects were 10 to 19 years old, had no educationally significant disability other than hearing impairment, had WISC or WAIS Performance IQ scores of 90 or above or were considered of average intelligence by teachers, and had normal hearing parents. Additionally, 45 normal hearing subjects in grades 3, 4, and 5 were included. Subjects saw illustrations presented with three sentence choices representing variations in one element of the sentence. Items were constructed to test for three levels of semantic difficulty: literal, semi-idiomatic, and idiomatic. Within each semantic category, items were constructed according to five semantic patterns. The percentage of items answered correctly was tallied. Hearing-impaired subjects found the literal verb-particle combinations significantly easier than both the other combinations. The easiest combination for the hearing-impaired was one resembling a verb-prepositional phrase sequence; the most difficult one was one in which the combination is separated by an object noun phrase. Results were used to suggest an order of difficulty for verb-particle combinations among hearing-impaired language learners.

CRAIG, HELEN B., & GORDON, HAROLD W. Specialized cognitive function and reading achievement in hearing-impaired adolescents. *Journal of Speech and Hearing Disorders*, February 1988, *53*, 30-41.

Administers a series of specialized cognitive function measures to hearing-impaired subjects and explores the relation between cognitive profile and reading achievement. Subjects included 34 male and 28 female students enrolled in a residential school for the hearing-impaired. The age range was from 15 to 20 years, and mean WISC Performance IQ was 107.5. Based on results of the Reading Comprehension subtest of the SAT, subjects were paired into high and low reading performers. Cognitive function was evaluated using an adapted version of the *Cognitive Laterality Battery* (CLT). The measure included two tests of sequencing, two tests of verbal fluency, and four tests of visuospatial function. In addition, the Reading Comprehension, Mathematics Computation, and Mathematics Concepts subtests of the SAT, and the Imitative and Spontaneous speech production sections of the *Goldman-Fristoe Test of Articulation* were administered. Scores on RPM were also available for most subjects. Findings indicated below average functioning for the verbal and sequential skills associated with the left hemisphere, but above average performance for the visuospatial skills associated with the right hemisphere. Reading and math performance were highly correlated with cognitive profile.

CAMPBELL, RUTH, & WRIGHT, HELEN. Deafness, spelling and rhyme: How spelling supports written word and picture rhyming skills in deaf subjects. *Quarterly Journal of Experimental Psychology*, November 1988, *40A*, 771-788.

Compares deaf and hearing groups, matched for reading age, in the ability to make rhyme judgments for pictures and for written words. The sample included 32 prelingually deaf adolescents, ages 11.3 to 16.65, with a mean reading age on the NARA of 8.5 years and 21 primary school children, ages 5.9 to 10.4, whose mean reading age was 8.31 years. Fifty pairs of words were generated to satisfy one of four conditions: (1) items rhyme and have similarly spelled endings, (2) items rhyme and have dissimilarly spelled endings, (3) items do not rhyme and spellings indicate so, and (4) items do not rhyme and the spellings suggest that they do. List types (1) and (3) were designated spelling-congruent; the other two lists were termed spelling-incongruent. Fifty pairs of pictures corresponding to the word pairs were

also prepared. Subjects were given the 50 picture pairs in randomized order and asked to separate them into rhyming and non-rhyming sets. They were then asked to name each picture and then to match each picture with its corresponding word. One week later, subjects were given the written form of the rhyme judgment task. While hearing children performed the task accurately, deaf subjects were poor at rhyme judgment for both words and pictures. For normal hearing children, word rhyme judgment was more accurate when the words were congruent in their spelling pattern, less accurate when the spelling pattern of the rhyming words was incongruent. Deaf subjects showed a more pronounced effect of spelling congruence; their ability to match for rhyme when written words did not share the same spelling pattern was poor. Spelling congruence predicted deaf subjects' picture rhyming skills.

VI-3 Mentally retarded

SINGH, JUDY. Teacher behavior during oral reading by moderately mentally retarded children. *Journal of Reading*, January 1989, *32*, 298-304.

Describes the various instructional techniques used by teachers during oral reading by moderately mentally retarded children. Participants in the study were four teachers and 18 children, ages 12-6 to 17-6, from a special school for the mentally retarded. Students' reading ages based on the *Burt Word Reading Test* ranged from 6 to 9 years. Teachers audiotaped five oral reading sessions with each child. Transcriptions were then made and teachers' responses to oral reading errors analyzed and divided into eight categories: tell, visual, visual context, reread, meaning, picture cures, sound, and no correction. Teachers' use of reinforcement and negative comments were also recorded. Results revealed that the tell procedure was used about 55% of the time by the four teachers; responses directing the reader to the graphemic aspects of the word (visual and visual context) or to its sound characteristics accounted for 7.5% and 11%, respectively. Meaning and picture cues were used least, and about 12% of errors were left uncorrected. Three of the teachers used unlabeled reinforcement ("Good!") more than descriptive praise and made minimal use of negative comments. The majority of teacher responses were immediate.

WOOD, THOMAS A.; BUCKHALT, JOSEPH A.; & TOMLIN, JUDY G. A comparison of listening and reading performance with children in three educational placements. *Journal of Learning Disabilities*, October 1988, *21*, 493-496.

Compares the listening and reading performance of children in three educational placements: LD, mild mental retardation (MR), and regular education (RE). Children numbered 180, with LD and RE children ranging in age from 9 to 12 years and MR children, from 12 to 15 years. Overall mean mental age for the three groups was about 10 years. The following instruments were administered: *Durrell Listening-Reading Series* (DRLS), *Wepman Auditory Discrimination Test, Visual Motor Integration Test*. Additionally WISC-R scores were available for DL and MR children, and the Verbal section of the WISC-R was administered to RE pupils. A MANOVA was performed, with independent variables being educational placement and place of residence and dependent variables, the listening and reading scores on the DRLS. LD children scored higher than MR children and lower than RE children. LDs were less delayed in listening than in reading. No main or interaction effects were noted for place of residence (urban or rural). Pearson correlation coefficients with WISC-R Verbal IQ scores and reading were .41 for RE, .20 for LD, and -.11 for MR pupils. Listening coefficients were .55, .1926, and .23, respectively, with IQ for the three groups. Reading/listening co-efficients were .73 and .78 for RE and LD children, respectively, and .46 for MR children.

AULT, MELINDA JONES; GAST, DAVID L.; & WOLERY, MARK. Comparison of progressive and constant time-delay procedures in teaching community-sign word reading. *American Journal on Mental Retardation*, July 1988, *93*, 44-56.

Compares the effectiveness and efficiency of a progressive and constant time-delay procedure in teaching 12 words to three moderately mentally retarded children. The three children ranged in age from 8 to 11 years and in IQ from 41 to 48. Each was taught to orally read 12 functional community-sign words, six with progressive time delay and six with constant time delay. Effectiveness was evaluated through the use of a parallel treatments design across sign words and replicated across subjects. Findings showed that both procedures were effective, with the constant time-delay procedure slightly more efficient in terms of minutes of direct instructional time and number of sessions to criterion. Both procedures resulted in error percentages of 1.4 or less.

VINOGRAD-BAUSELL, CAROLE R.; BAUSELL, R. BARKER; PROCTOR, WILLIS; & CHANDLER, BYRON. Impact of unsupervised parent tutors on word recognition skills. *Journal of Special Education*, Spring 1986, *20*, 83-90

Evaluates the effectiveness of supplementary home tutoring of special education pupils in reading. Children were in special education classes for the DL, emotionally disturbed, and educably mentally retarded. They ranged in age from 5-3 to 9-4 and in IQ from 56 to 115. Each of the 41 pupils was randomly assigned to either an experimental or a control group. Experimentals were given teaching materials to take home to parents, while controls were sent home with a letter indicating that the materials would be coming in two weeks. Two weeks after experimental received materials, all children were administered a word recognition test. Controls were then given the materials to take home. Materials consisted of 10 flash cards containing nouns at the primer and first-reader levels along with teaching instructions for parents. Parents were asked to teach five times weekly for a two-week period. The word recognition test consisted of the words sent home. Experimentals scored significantly higher on the word recognition test than did controls. A follow-up study indicated that parents could and would make their own materials.

POLLOWAY, EDWARD A.; EPSTEIN, MICHAEL H.; POLLOWAY, CAROLYN H.; PATTON, JAMES R.; & BALL, DONALD W. Corrective reading program: An analysis of effectiveness with learning disabled and mentally retarded students. *Remedial and Special Education*, July/August 1986, *7*(4), 41-47.

Studies the effectiveness of the Corrective Reading Program (CRP) with a population of LD and educable mentally retarded (EMR) students. Included were 78 LD students (mean CA = 15-7) and 41 EMR students (mean CA = 16). Achievement test data were obtained from the administrations of the Reading Recognition and Reading Comprehension subtests of the PIAT. When compared to reading progress made in previous years, both groups showed significantly greater improvement. LD students showed greater achievement gains than did EMR students in both subtests, with differences in the recognition area being statistically significant.

SINGH, NIRBHAY N., & SINGH, JUDY. A behavioral remediation program for oral reading: effects on errors and comprehension. *Educational Psychology*, 1986, *6*(2), 105-114.

Looks into the efficacy of a behavioral remediation program for enhancing the oral reading accuracy and comprehension of moderately mentally retarded children. Participants were one 17-year-old male and three females (ages 11, 15, and 15), all from a special school for mentally retarded children. Stanford-Binet IQs ranged from 39 to 51, and reading age on the *Burt Word Reading Test* from 4 years 5 months to 7 years 7 months. Baseline data were

collected from the oral reading of a 50-word passage. During the intervention period, subjects were presented with a series of 50-word passages followed by comprehension questions. Three remediation procedures were used and included a preview and discussion of the story by the teacher. Any corrections of oral reading errors were delayed until the end of the sentence when the teacher supplied the correct word. Positive practice overcorrection plus positive reinforcement was used as the third remediation procedure. During baseline, the number of oral reading errors for the four subjects ranged from 6 to 12; after the first week of intervention, errors decreased to between 1 and 5. As intervention progressed, the number of correct comprehension responses increased from 91% to 135% over baseline.

SINGH, NIRBHAY N., & SINGH, JUDY. Increasing oral reading proficiency through overcorrection and phonic analysis. *American Journal on Mental Retardation*, November 1988, *93*, 312-319.

Provides comparative data on the efficacy of overcorrection and phonic analysis as error-correction procedures for children with moderate mental retardation. Subjects were three girls from a special school for children with mental retardation. The girls were ages 9, 10, and 12 years and their WISC-R IQs ranged from 42 to 49. Three sets of forty 100-word passages were selected for each girl. The three sets were randomly assigned to one of three conditions: overcorrection, phonic analysis, and a no-intervention control. All oral reading errors and correct responses were recorded. Baseline data were collected; the three intervention treatments were presented daily in a randomized order. All three girls made the fewest errors under the phonic analysis condition; overcorrection was more effective than non-intervention. Overcorrection was more effective in the early phase of intervention, but phonic analysis became more effective with extended training.

YSSELDYKE, JAMES E.; O'SULLIVAN, PATRICK J.; THURLOW, MARTHA L.; & CHRISTENSON, SANDRA L. Qualitative differences in reading and math instruction received by handicapped students. *Remedial and Special Education*, January/February 1989, *10*(1), 14-20.

Investigates the reading and math instruction received in mainstream classrooms for mildly handicapped LD and emotionally/behaviorally disturbed (EBD) pupils and non-handicapped children. Additionally, differences in reading and math instruction in special education settings was investigated among mildly handicapped LD, EBD, and educable mentally retarded (EMR) pupils. Subjects were 30 LD, 30 EBD, 30 EMR, and 30 nonhandicapped pupils in grades two to four from two school districts. The Instructional Environment Scale (TIES) was used in obtaining information about the qualitative aspects of instruction for each pupil. Included were classroom observation, teacher interview, pupil interview, and a 40-item qualitative rating scale. LD and EBD children were observed in both general and special education classes; non-handicapped pupils were observed in their general class, and EMR pupils were observed only in their special education classes. Two observations of about 45-minutes each were made for each child on two consecutive days. The 40 TIES items were grouped into six instructional factors to be used in the data analysis: Instructional Planning, Instructional Presentation, Checking for Student Understanding, Task Relevance, Practice, and Feedback. ANOVA revealed no significant differences among groups in the qualitative nature of reading instruction in mainstreamed settings. In special education settings, there were significant differences among groups on two components, Checking for Understanding and Task Relevance, with ratings being higher for LD than for EMR pupils. No significant differences were noted in the qualitative nature of math instruction among groups in any setting.

VI-4 Neurologically impaired/brain damaged

LECOURS, ANDRE ROCH; MEHLER, JACQUES; & PARENTE, MARIA ALICE. Illiteracy and brain damage. 3: A contribution to the study of speech and language disorders in illiterates with unilateral brain damage (initial testing). *Neuropsychologia*, 1988, *26*(4), 575-589.

Gives results of an aphasia screening test administered to 188 unilateral stroke adult subjects. Subjects were either totally unschooled illiterates or had received at least four years of schooling and thereafter retained reading and writing skills. All were tested within two months after a first unilateral stroke. Included in the testing was a short interview as well as naming, repetition, and word-picture matching and sentence-picture matching tasks. Global error scores on all tasks were greater for left-and right-brain damaged illiterate and literate subjects than among their controls. In repetition and matching the differences were statistically significant for the left but not for the right-stroke patients, regardless of the literacy factor. Significant differences were found in naming not only for the two left-stroke groups but also for the right-stroke illiterate group. Some degree of word-finding difficulty and of reduction in speech output as well as a sizeable production of phonemic paraphasias were observed in the interviews of several right-stroke illiterates, while less was found in those of right-stroke literates. It was suggested that cerebral representation of language is more ambilateral in illiterates than it is in school educated subjects, although left cerebral dominance is the rule for both.

HAYASHI, MARI M.; ULATOWSKA, HANNA K.; & SASANUMA, SUMIKO. Subcortical aphasia with deep dyslexia: A case study of a Japanese patient. *Brain and Language*, July 1985, *25*, 293-313.

Investigates the reading performance of a Japanese Broca-type aphasic patient on a single word reading test. The patient, a 46-year-old female with a ninth grade education, presented a moderate-to-severe Broca-type aphasia with difficulty in word finding, writing, and initiating utterances. Three groups of experimental tasks were administered: (1) reading of kanji and kana single words and numbers written in Arabic and kanji; (2) reading comprehension using picture-word matching tasks and comprehension of semantic features represented by kanji radicals; and (30 lexical-decision tasks on words and nonwords written in kanji and kana. Performance was compared with that of another Japanese deep dyslexic subject from a previous report. The major types of errors in group 1 tasks were either some kind of semantic paralexia or no response, suggesting that she grasped the general semantic field of the stimulus but could not specify the correct output. Number reading was a better preserved function. The overall score in reading comprehension tasks versus oral reading showed significantly better performance in reading comprehension of both kanji and kana. In group 3 tasks, the correct response to real words was prompt, but responses to nonwords was slower. Unique characteristics included the isolated subcortical site of the lesion which apparently produced deep dyslexia and the double dissociations between kanji and kana processing and between oral reading and reading comprehension.

GOODGLASS, HAROLD, & BUDIN, CLAY. Category and modality specific dissociations in word comprehension and concurrent phonological dyslexia. *Neuropsychologia*, 1988, *26*(1), 67-78.

Reports a case of a 62-year-old right-handed male who suffered a cerebrovascular accident. The patient presented a severe aphasia of the Broca type, marked by a severe auditory impairment while auditory comprehension was good outside of the category-specific deficit for colors, body parts, numbers, and letters. He had excellent comprehension for all word categories, including those affected by the auditory dissociation. A severe impairment in the graphophonemic route for reading was also found. The study is discussed in the context

of category-specific dissociations after brain injury and the possible mechanism for failures of body part comprehension.

GUILLOT, GUNTHER; HUBER, WALTER; & STILLER, ULRIKE. Eye movements in aphasia during lexical problem solving. In J.K. O'Regan & A. Levey-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 479-486.

Records duration, frequency, and alternation of gaze of aphasic and control subjects during reading of a lexical-semantic analogy task. Subjects included 11 college students, 11 normal controls, 8 CNS-patients without aphasia, 10 aphasics without category perseveration, and 7 aphasics with category perseveration. Subjects were shown a pair of words and then asked to select from a multiple-choice set two other words that conveyed the same semantic relation as the two reference words. The 15 items were presented in three blocks of five items each. Eye movements of subjects were taken during the scanning of multiple-choice items. Both aphasic groups required significantly longer time for scanning than any of the non-aphasic groups. Aphasics with perseveration were only slightly faster than those without perseveration. Aphasics with perseverations relied primarily on a strategy of intra-conceptual processing of the multiple-choice words, regardless of the reference words given; i.e., they relied on searching only the multiple-choice set for a particular semantic relation or category that recurred from one task item to the other. Aphasics without perseverations appeared to rely on a more optimal strategy as did non-aphasics: they tried to comprehend the semantic relation between the reference words and to find an analogous relation among the multiple-choice words. Aphasics paid most of their attention to the target word; normal controls relied solely on inclusions and were primarily concerned with both target and associates. Although aphasics without perseverations exhibited a similar eye movement pattern as normal controls, they gave significantly fewer correct responses.

FUNNELL, ELAINE. Morphological errors in acquired dyslexia: A case of mistaken identity. *The Quarterly Journal of Experimental Psychology*, August 1987, *39*, 497-539.

Notes the morphological errors made by two patients with different patterns of acquired dyslexia. Both patients were right-handed males in their 50s who had suffered strokes. Although presented as three separate experiments, the same patients were involved in each. In Experiment 1, the patients were presented with 32 suffixed words and 32 pseudo-suffixed words for oral reading. The two made stem errors to both types of words. Correct responses and errors were sensitive to the relative levels of target and stem on the variables of imageability and word frequency. For Experiment 2, four sets of 20 word pairs were selected. In Set 1, the words in each pair were morphemically and visually related; in Set 2, semantically related; in Set 3, visually related, but neither morphemically nor semantically related; and in Set 4, word pairs were unrelated visually or semantically. Experiment 3 involved a set of 85 words in which a complete word formed the initial part of the target word. There were 33 suffixed words, 33 pseudo-suffixed words, and 19 embedded words. The majority of morphological errors made appeared to be a type of visual error that may arise when a target word either cannot be recognized or cannot be read aloud. It was concluded that so-called morphological errors reflect the properties of the reading system which influence lexical orthographic access for both affixed and unaffixed words and further reflect the functional level of the lexical pathways available to a patient.

DORMAN, CASEY. Reading disability subtypes in neurologically-impaired students. *Annals of Dyslexia*, 1987, *37*, 166-188.

Conducts three studies to determine if previously identified reading disability subtypes were present in neurologically-impaired children with and without reading disabilities.

The sample included 50 children, ages 11-19, all with diagnosed neurological disorders. All subjects had either a Verbal or Performance IQ on the WISC-R above 70. Half of the group were reading disabled according to WRAT Reading standard score below 85 and either Verbal or Performance IQ above WRAT Reading standard score. The anomic-language disorder subtype, dysphonetic and mixed dysphonetic-dyseidetic subtypes, and three other subtypes were all present, primarily in the reading disabled sample. The author concluded that the visual-perceptual disorder subtypes may reflect neurological impairment but not be related to reading disability. It was hypothesized that other subtypes may reflect ways in which the neurological impairment interferes with reading and also that subtle neurological impairment may be found in dyslexic children who fall into the same subtypes.

SIEROFF, ERIC; POLLATSEK, ALEXANDER; & POSNER, MICHAEL I. Recognition of visual letter strings following injury to the posterior visual spatial attention system. *Cognitive Neuropsychology*, 1988, *5*(4), 427-449.

Compares perception of words and nonword letter strings by patients with known deficits in visual spatial attention. Three experiments are reported. In Experiment 1, eight patients with parietal damage and five normal subjects were asked to identify a string of letters appearing on a screen for 100 msec. Stimuli were 4-, 5-, and 6-letter strings; half were words, and half nonwords. The latter were almost all nonpronounceable. A clear word superiority effect was found. Patients with left parietal lobe lesions neglected the end of nonwords and patients with lesions of the right parietal lobe neglected the start of nonwords. In Experiment 2, 10 patients were examined shortly after the lesion at bedside. They were approached from their right side and presented with a set of cards half of which had eight-letter words on them and half of which had nonpronounceable nonwords on them. Half of the words consisted of compound words and half were noncompounds. Again there was a clear advantage of words over nonwords. Errors for words were of three types: (1) a letter-by-letter report with a misspelling; (2) an attempt to pronounce the end of a word without making a meaningful unit of it; (3) production of a new word having only the end of the word and a few letters of the neglected segment in common with the target word. There was much more neglect of the left side of nonwords than for words. Experiment 3 used a 65-year-old male with a right lesion as a subject. Words and nonwords were presented on a video screen controlled by a computer. The subject showed a strong extinction for bilateral stimuli, whether words or nonwords, but showed extinction for centered stimuli only when they were nonwords. Overall results of the experiments were interpreted as suggesting that spatial attention is unnecessary for access to the lexical network that produces a visual word form.

TEMPLE, CHRISTINE M. Red is read but eye is blue: A case study of developmental dyslexia and follow-up report. *Brain and Language*, May 1988, *34*, 13-37.

Presents a case study of a nine-year-old boy whose reading performance resembles deep dyslexia in several ways. WISC-R Verbal IQ was 75 and Performance IQ 78; RPM IQ was 85; PPVT IQ was 88. At age nine on the Schonell single word reading test, the subject read two words correctly, attaining a reading age of 5-2. He was unable to name or sound out any letters of the alphabet other than the first letters of his first and last name. From a number of reading lists comprising about 300 words, there were 30 he read correctly. When asked to read orally two passages continuing 162 words from his school readers, he correctly read 98 words and produced 64 overt errors. The incidence of errors with a semantic component was significantly above chance. Follow-up reassessment some two years later showed the development of some phonic skills. The absolute number of errors with a semantic component declined and the overall error rate declined somewhat. After an additional year and a half, another reassessment indicated that pure semantic errors had disappeared. The pattern was no longer consistent with deep dyslexia, but was typical of phonological dyslexia. However, at

age 12, reading age was still below the six year old level. It is argued that developmental deep dyslexia may not be a prevalent subtype because the multiple impairments necessary to produce the disorder seldom co-occur and may tend to preclude reading development altogether.

OBER, BETH A., & SHENAUT, GREGORY K. Lexical decision and priming in Alzheimer's disease. *Neuropsychologia*, 1988, *26*(2), 273-286.

Examines the performance of a group of Alzheimer's disease (AD) subjects on lexical decision. Nine AD patients and 15 age-matched controls served as subjects. Subjects viewed a string of capital letters presented on a CRT screen, and were to press a button indicating whether or not the string formed a real word. Three types of stimuli words, filler words, and nonwords all served as stimuli. Target words were presented in semantic and rhyming prime conditions. AD subjects showed no facilitation effect on RT from a single semantic prime. AD patients were no faster at making lexical decisions to target preceded by a semantic prime than to those preceded by an unrelated prime, in contrast to the facilitatory effect of semantic primes for controls. Fewer errors were made by both groups on the targets that followed related items, suggesting the preservation of associative relationships in AD. Both subject groups showed similar effects on lexical decision of repetition priming, word frequency, and the degree to which nonwords approximated real words.

EBER, A.M.; METZ-LUTZ, M.N.; BATAILLARD, M.; & COLLARD, M. Reading eye movements of patients with homonymous hemianopia. In J.K. O'Regan & A. Levy-Schoen (Eds.) *Eye Movements: From Physiology to Cognition*. New York: Elsevier Science Publishing Co., 1987, 544-545.

Analyzes changes of the oculomotor scanning behavior in reading when visual information is available only to one hemifield. Subjects included a control group of 20 normal French readers and a hemianopic group consisting of 30 brain damaged patients with homonymous hemianopia. Oculomotor scanning behavior was studied while subjects read a text of 209 words. Reading eye movements of controls are described as being in keeping with the normal "staircase pattern." In the hemianopic group, the normal pattern was recognizable in only eight subjects. Analysis indicated that a right visual defect disturbed the eye movements more severely than a left visual defect.

PILLON, BERNARD; BAKCHINE, SERGE; & LHERMITTE, FRANÇOIS. Alexia without agraphia in a left-handed patient with a right occipital lesion. *Archives of Neurology*, December 1987, *44*, 1257-1262.

Reports a case of a 67-year-old left-handed male who had suffered an ischemic vascular accident in the territory of the right posterior cerebral artery and subsequently displayed alexia without agraphia. Disturbances included problems of visual representation and topographic memory, together with an amnesic syndrome.

MOODY, S. The Moyer reading technique re-evaluated. *Cortex*, September 1988, *24*, 473-476.

Describes a controlled clinical trial of the efficacy of the Moyer technique, a remedial technique used to improve the reading speed of a dyslexic patient. The procedure involves reading continuous passages of prose over and over again for a specified time each week. Three patients who had suffered strokes and were dyslexic as a result constituted the subjects. The patients were given an initial test of reading speed and comprehension followed by a second baseline assessment four weeks later. They were then given 15 weekly one hour sessions following the training program in multiple oral reading. In each session, patients were asked to read aloud a novel text and timed on the reading. The same text was to be read aloud at home each day for a period of 20 minutes. In the next session, the patient was timed on the

reading of the practiced passage and a new passage which was then to be practiced for the following week. Two of the patients significantly improved their reading speed on both practiced and new text.

KAY, JANICE. On the origin of morphological errors in two cases of acquired dyslexia. *Linguistics*, 1988, *26*(4), 669-697.

Describes two case studies of acquired dyslexia in which the patients made morphological reading errors. The first patient was a 64-year-old male who had been left with a global dysphasia as a result of suffering a CVA: the second patient was a 40-year-old female who suffered a CVA which left her severely nonfluent and dyspraxic. Affix errors were made in oral reading even though visual recognition and comprehension of the affixed form appeared to be intact. Affix errors were produced for the most part when the target word was semantically transparent. One of the patients had an additional problem in producing unstressed syllables. It was felt that some deletion errors in which the affix is omitted seem to arise because the affix is unstressed in the target word.

DENNIS, MAUREEN. The developmentally dyslexic brain and the written language skills of children with one hemisphere. In Ursula Kirk (Ed.) *Neuropsychology of Language, Reading, and Spelling*. New York: Academic Press, 1983, 185-208.

Reviews the literature on the developmental dyslexic brain. Also reviews studies of children with pathology in one hemisphere and the results of reading, writing, and spelling research with such children.

VI-5 Other atypical learners

SHAPIRO, EDWARD S., & MCCURDY, BARRY L. Effects of a taped-words treatment on reading proficiency. *Exceptional Children*, January 1989, *55*, 321-325.

Assesses the effects of a taped word intervention on both the rate of reading isolated vocabulary words and generalization to passages containing the same words when used with students with behavior disorders. Five ninth-and tenth-graders from a school for the socially and emotionally disturbed participated in the study. All were reading at or below a sixth-grade level as measured on the PIAT. Twenty-four passages were selected from a driver education manual, each followed by five comprehension questions. From the passages, 80 words were selected, based on their difficulty and unfamiliarity to subjects. Six lists of words were developed, with each containing the 80 words in random order; lists were presented via audio-tape at the rate of 80 words per minute. Baseline data were collected on the reading of the word list, a passage, and the comprehension of the passage. For the taped-word intervention, subjects were required to read along with the tape recording of the vocabulary list and then were directed to read the list again. Oral reading rates were obtained for the list reading and for the reading of a passage. For four of the subjects there was an increase in level from baseline to treatments sessions in the number of words read correctly per minute on the lists. For words read incorrectly, little change was found from baseline to intervention across all subjects. Most subjects showed only minimal increases in the percentage of list words read correctly in context from baseline to intervention. Little change in comprehension occurred.

MCGEE, ROB; WILLIAMS, SHEILA; MOFFITT, TERRIE; & ANDERSON, JESSIE. A comparison of 13-year-old boys with attention deficit and/or reading disorder on neuropsychological measures. *Journal of Abnormal Child Psychology*, February 1989, *17*, 37-53.

Compares groups of boys identified as attention deficit disorder (ADD) only, ADD+RD, RD only, and controls on neuropsychological tests. Subjects were 13-year-old

boys enrolled in the Dunedin Multidisciplinary Health and Development Study, a longitudinal investigation of a large sample of New Zealand children. ADD boys were identified at age 11 and again at age 13 using parent and teacher questionnaire data. At age 13, reading scores on the *Burt Word Reading Test* were available for 26 of the 27 ADD boys. Of these, 13 were defined as not RD and 13 as ADD+RD. A sample of 13 boys was identified for the RD group, matched on reading and WISC-R Performance IQ. A group of 62 controls was found, equivalent to the ADD group on reading and Performance IQ and equivalent to the RD group on measures of inattention. A battery of seven neurological tests was selected and administered. None of the measures differentiated ADD-only boys from the controls. The only deficit associated with ADD was slightly lower IQ. RD was associated with deficits in memory and verbal skills.

GRAHAM, JR., JOHN M.; BASHIR, ANTHONY S.; STARK, RACHEL E.; SILBERT, ANNETTE; & WALZER, STANLEY. Oral and written language abilities of XXY boys: Implications for anticipatory guidance. *Pediatrics*, June 1988, *81*, 795-806.

Compares the oral and written language abilities of 14 XXY boys with those of a matched control group in an effort to determine whether there are differences in the processing of certain kinds of verbal and nonverbal auditory stimuli between the two groups. Boys were between 5 and 12 years of age at the time of testing. A battery of 21 tests was selected to assess oral and written language abilities. Reading deficits were found for the XXY boys compared to normals. On the *Gilmore Oral Reading Test* the mean accuracy score for XXY boys was grade 3.9; for controls it was 5.5. Comprehension and rate of reading on the Gilmore were also lower for the XXY group. Rate of reading silently for the XXY group was grade 2.9; for controls it was 6.2. On the *St. Lucia Word Reading Test* the performance of the XXY group was again less than that of controls. XXY boys were also found to be deficient in phonic analysis skills. Other findings along with these suggested that the difficulty in learning how to read and spell in XXY children may be due to a preexisting language disability.

DORMAN, CASEY; HURLEY, ANNE DESNOYERS; & D'AVIGNON, JANICE. Language and learning disorders of older boys with Duchenne muscular dystrophy. *Developmental Medicine and Child Neurology*, June 1988, *30*, 316-327.

Reports two studies investigating the cognitive functioning of subjects with Duchenne muscular dystrophy (DMD). In Study 1, the sample consisted of 25 DMD males, ages 10 to 19. WISC or WAIS scores were examined. Performance IQ was significantly higher than Verbal IQ for the younger boys but not for the older group. Included in Study 2 were 15 subjects from a school for physically handicapped children and adolescents who were in stages VIII or IX of the disease in terms of functional mobility. Available data included Verbal IQs, WRAT reading, PIAT scores, SES ratings, degree of disability ratings, and behavioral ratings on the *Bristol Social Adjustment Guide*. Each subject was individually tested with a battery of 16 psychological measures. No motor skills were required. The battery was organized into five categories of behavior: (1) simultaneous spatial information processing, (2) auditory-sequential information processing, (3) auditory perception and analysis, (4) expressive language, and (5) receptive language. Results revealed a pattern of deficient phonological processing reading skills in about half of the group.

BENEZRA, ESTHER, & DOUGLAS, VIRGINIA I. Short-term serial recall in ADDH, normal, and reading-disabled boys. *Journal of Abnormal Child Psychology*, October 1988, *16*, 511-525.

Examines short-term retention of verbal items of span and subspan length in boys with attention deficit disorder with hyperactivity (ADDH), normal boys, and non-ADDH reading-disabled boys. Subjects included 30 ADDH, 30 normal, and 24 reading-disabled

boys from 12 elementary English schools in Montreal, Quebec. Boys were from grades two to six, ranged in age from 7 to 12 years old, and were matched on age and IQ. Equal numbers were assigned to age groups of 7-8, 9-10, and 11-12 years. Boys were rated by teachers on the *Conners Teachers Rating Scale* (CTRS), by parents on the *Abbreviated Conners Rating Scale for Parents* (CPRS); additionally, the PPVT and the Oral Reading Subtest of the *Durrell Analysis of Reading Difficulty* were administered. ADDH boys were determined to be so according to criteria scores on the CTRS and CPRS. Three measures of verbal serial recall were given: a letter series, a digit series, and a consonant trigram series. No significant group differences were found between ADDH and normal boys on the three serial measures. RD boys performed significantly more poorly than the other two groups when required to recall verbal items following "filled" delay intervals in which boys were required to carry out a competing verbal activity.

BOUDREAULT, MAURICE; THIVIERGE, JACQUES; COTE, ROBERT; BOUTIN, PIERETTE; JULIEN, YVES; & BERGERON, SUZANNE. Cognitive development and reading achievement in pervasive-ADD, situational-ADD and control children. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, September 1988, *29*, 611-619.

Asks whether (1) there is a difference in intellectual level between pervasive-Attention Deficit Disorders (ADD) children and situational-ADD children, (2) the former have more reading problems than the latter, and (3) they differ in visuo-motor abilities. Eighty French-speaking children in Quebec, age range 7.6 to 9.0 years, constituted the sample. Of these, 40 were identified as deviant on the basis of the *Classroom Rating Scale* (CRS) and 40 constituted a matched group of CRS non-deviant children. Additional measures administered included the following: (1) a parent questionnaire to determine socioeconomic status, (2) an ADD questionnaire filled out by teachers, (3) WISC-R, (4) the *Bilan Qualitatif de l'Apprentissage de la Lecture* (BQAL) as a measure of reading, and (5) four measures of visuo-motor coordination. Only children whose scores on the ADD measure were stable over a two-month pre- and posttest period were included. The final breakdown of subjects was 16 pervasive-ADD, 9 situational-ADD, and 28 non-ADD children. Results indicated that pervasive-ADD children had lower verbal IQs and lower BQAL scores than the non-ADD group. There was support for a distinction between the two ADD groups.

Journals Monitored
Annual Summary of Investigations Relating to Reading
July 1, 1988 to June 30, 1989

Academic Therapy
Action Teacher Education
Adolescence
Adult Education (British NIAE)
Adult Education Quarterly
Alberta Journal of Educational Research
American Annals of the Deaf
American Cartographer
American Educational Research Journal
American Journal of Community Psychology
American Journal of Education
American Journal of Mental Retardation
American Journal of Orthopsychiatry
American Journal of Psychology
American Journal of Sociology
American Psychologist
American Quarterly
American Sociological Review
Applied Ergonomics
Applied Psycholinguistics
Archives of Neurology
Arithmetic Teacher
Arizona English Bulletin
Arizona Reading Journal
Australian Journal of Education
Australian Journal of Psychology
Australian Journal of Reading
Australian Library Journal
Book Research Quarterly
Brain: A Journal of Neurology
Brain & Cognition
Brain & Language
British Journal of Disorders of Communication
British Journal of Educational Psychology
British Journal of Educational Studies
British Journal of Educational Technology
British Journal of Psychology
British Journal of Sociology of Education
British Journal of Special Education
Bulletin of the Psychonomic Society
California Reader
Canadian and International Education
Canadian Journal for Exceptional Children
Canadian Journal of Behavioral Science
Canadian Journal of Psychology
Canadian Library Journal
Canadian Modern Language Review
Canadian Psychology
Cartographic Journal
Child Care: Health & Development
Child Development
Child Psychiatry and Human Development
Childhood Education
Children's Literature in Education
Clearing House, The
Cognition and Instruction
Cognition International
Cognitive Neuropsychology
Cognitive Psychology
Cognitive Science
College and Research Libraries
College Student Journal
Columbia Journalism Review
Communication and Cognition
Communication Education
Communication Monographs
Communication Quarterly
Communication Research
Communication A.C.M.
Community Junior College
Comparative Education Review
Computers & Education
Computers and the Humanities
Computing Teacher
Contemporary Education
Contemporary Education Review
Contemporary Educational Psychology
Contemporary Issues in Reading
Contemporary Psychology
Cortex
CSIL: Current Studies in Librarianship
Curriculum Inquiry
Developmental Medicine and Child Neurology
Developmental Psychology
Discourse Processes
Early Childhood Research Quarterly
Education
Education and Society
Education and Training in Mental Retardation
Education Digest
Education for Information
Education Libraries Bulletin
Education, U.S.A.
Educational and Psychological Measurement
Educational and Psychological Research
Educational Forum
Educational Gerontology: An International Quarterly
Educational Horizons
Educational Leadership
Educational Psychologist

257

Educational Psychology
Educational Research
Educational Research Quarterly
Educational Researcher
Educational Review
Educational Studies
Educational Technology
Educational Technology Research and Development
Elementary School Journal
ELT Journal
English Education
English in Australia
English in Education
English Journal
English Quarterly
Ergonomics
ETS Developments
Exceptional Child, The
Exceptional Children
Florida Reading Quarterly
Foreign Language Annals
Forum
Forum for Reading
Gazette: International Journal for Mass Communications Studies
Georgia Journal of Reading
Gifted Child Quarterly
Harvard Educational Review
High School Journal
Higher Education–Amsterdam
History of Education
History of Education Quarterly
Human Development
Human Factors
Idaho Reading Report
Illinois Reading Council Journal
Imagination, Cognition & Personality
Indian Educational Review
Indiana Reading Quarterly
Instructional Science
Intelligence
Interchange
International Journal of Educational Research
International Journal of Psychology
International Library Review
International Research in Reading
International Review of Education
Interracial Books for Children
Irish Journal of Education
Journal for Affective Reading Education
Journalism Monographs
Journalism Quarterly
Journal of Abnormal Child Psychology
Journal of the Acoustical Society of America
Journal of Advertising
Journal of Advertising Research
Journal of Aesthetic Education
Journal of American Optometric Association
Journal of Applied Behavioral Science
Journal of Applied Behavior Analysis
Journal of Applied Developmental Psychology
Journal of the Association for the Study of Perception
Journal of Child Psychology and Psychiatry
Journal of Clinical Psychology
Journal of Communication
Journal of Communication Disorders
Journal of Counseling Psychology
Journal of Curriculum Studies
Journal of Education
Journal of Educational Computing Research
Journal of Educational Measurement
Journal of Educational Psychology
Journal of Educational Research
Journal of Experimental Child Psychology
Journal of Experimental Education
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Human Perception and Performance
Journal of Experimental Psychology: Learning, Memory and Cognition
Journal of General Psychology
Journal of Genetic Psychology
Journal of Learning Disabilities
Journal of Marketing
Journal of Marketing Research
Journal of Memory and Language
Journal of Mental Imagery
Journal of Multilingual and Multicultural Development
Journal of Negro Education
Journal of Reading
Journal of Reading Behavior
Journal of Reading Education
Journal of Reading, Writing and Learning Disabilities International
Journal of Research and Development in Education
Journal of Research in Personality
Journal of Research in Reading
Journal of Research in Science Teaching
Journal of Research on Computing in Education
Journal of School Psychology
Journal of Special Education
Journal of Speech and Hearing Disorders
Journal of Speech and Hearing Research
Journal of Visual Impairment and Blindness
Journal of Vocational Behavior
Kansas Journal of Reading
Kentucky Reading Journal
Language and Speech
Language Arts
Language in Society
Language Learning
Learning Disabilities Focus

Learning Disabilities Quarterly
Learning Disabilities Research
Library and Information Science Research
Library Association Journal
Library Journal
Library Quarterly
Library Resources and Technical Services
Library Review
Library Trends
Lifelong Learning
Lifelong Trends
Linguistic Inquiry
Linguistics: An Interdisciplinary Journal of the Language Sciences
Mass Communication Review
Massachusetts Primer
Measurement and Evaluation in Counseling and Development
Media and Methods
Memory and Cognition
Merrill-Palmer Quarterly
Michigan Reading Journal
Minnesota Reading Association Highlights
Mississippi Reading Journal
Missouri Reader
Modern Language Journal
Monographs in Language and Reading Studies
Monographs of the Society for Research in Child Development
Montana Reading Journal
National Association for Secondary School Principals Bulletin
Neuropsychologia
New England Reading Association Journal
New Mexico Journal of Reading
New Zealand Journal of Education Studies
News Research Report
Newspaper Research Journal
Ohio Reading Teacher
Oklahoma Reader, The
Optometry & Vision Science
Peabody Journal of Education
Pediatrics
Perception and Psychophysics
Perceptual and Motor Skills
Perspectives
Phi Delta Kappan
PLET: Programmed Learning & Educational Technology
Poetics
Poetics Today
Professional Psychology: Research and Practice
Programmed Learning and Educational Technology
Prospects: Quarterly Review of Education
Psychological Medicine
Psychological Record
Psychological Review
Psychology
Psychology in the Schools
Psychophysiology
Public Opinion Quarterly
Quarterly Journal of Experimental Psychology
Reading
Reading-Canada-Lecture
Reading Education
Reading: Exploration & Discovery
Reading Horizons
Reading Improvement
Reading in a Foreign Language
Reading Instruction Journal
Reading in Virginia
Reading Professor, The
Reading Psychology
Reading Research and Instruction
Reading Teacher, The
RELC Journal
Remedial and Special Education
Research and Teaching in Developmental Education
Research in Education
Research in the Teaching of English
Review of Education, The
Review of Educational Research
Rhode Island Reading Review
Roeper Review
Scandinavian Journal of Educational Research
Scandinavian Journal of Psychology
Scandinavian Public Library Quarterly
Scholarly Publishing
School Counselor
School Library Journal
School Library Media Quarterly
School Psychology International
School Science & Mathematics
Science Education
Science of Reading
Scottish Educational Review
Sex Roles
Signal
Social Education
Sociology of Education
Spelling Progress Quarterly
Studies in Art Education
Studies in Educational Evaluation
Support for Learning
Tar Heel Reading Journal
Teachers College Record
Teaching English in the Two-Year College
Teaching English to Deaf and Second Language Students
Teaching Exceptional Children
Teaching Pre K-8
Technological Horizons in Education Journal
Tennessee Reading Teacher
Tennessee Teacher

TESOL Quarterly
Texas Tech Journal of Education
Text
Theory into Practice
Topics in Language Disorders
Urban Education
Urban Review
Visible Language
Vision Research
Volta Review
Western College Reading Association Journal
Wisconsin State Reading Association Journal

Author Index, Annual Summary of Investigations Relating to Reading, July 1, 1988 to June 30, 1989

The following index includes the names of all the authors of reports in the summary followed by the part (Roman numeral), section (Arabic number), and page number in the summary where the citation and short abstract for the report by that author can be found. All authors, whether they are the first author or the name given subsequent to that in a joint effort, are listed in this index. The names of single authors and of first authors in a joint article are italicized. When the report is by two authors, the entry here for the first author given is followed by the last name of the other author and both names are italicized. When there are three or more authors, the entry for the first author is followed by et al. The Roman face (nonitalicized) entries in this index are the names of the authors given subsequent to the first author named.

A

Aaron, P.G.: IV-14, p. 108
Aaron, P.G. et al.: IV-14, p.123
Abel-Carrick, Dorothy: IV-13, p. 107
Abood, Doris: IV-19, p.136
Abraham, John: II-2, p. 7
Abramovici, Simon: IV-21, p. 149
Ackerman, Brian P.: IV-5, p. 73
Ackerman, Peggy T. et al.: IV-14, p. 120
Adams, Cindy S.: IV-20, p. 145
Adams, Susan McIntyre: V-15, p. 229
Alexander, Deborah Ferrante: V-11, p. 210
Alexander, Karl L.: V-4, p. 180
Alexander, Patricia A.: V-9, p. 201
Alexander, Patricia A. et al.: V-7, p. 192
Alford, Margaret R.: V-12, p. 215
Allegretti, Christine L. & Puglisi: IV-7, p. 77
Allington, Richard L. & McGill-Frazen: V-1, p. 176
Allington, Richard et al.: V-11, p. 205
Alvarez, Marino C. & Risko: IV-5, p. 67
Alvermann, Donna E.: IV-5, p. 66
Alvermann, Donna E. & Smith: II-3, p. 8
Alvermann, Donna E. & Swafford: V-7, p. 192
Anderson, Betty: III-13, p. 40
Anderson, Christine: IV-1, p. 48
Anderson, Eleanor: V-2, p. 178
Anderson, Jessie: VI-5, p. 246
Anderson, M.: V-15, p. 231
Anderson, Nancy A. & Greabell: II-3, p. 10
Anderson, Ora Sterling & Smith: V-8, p. 196
Anderson, Peggy L.: IV-8, p. 86
Anderson, Richard C.: V-5, p. 183
Anderson, Teresa: IV-18, p. 134
Anderson, Thomas H.: V-9, p. 201
Anhalt, Jean M.: IV-14, p. 120
Annis, Linda Ferrill: IV-22, p. 159
Anstey, Michele M. & Freebody: IV-22, p. 161
Anton, Stanley: IV-1, p. 46
Apel, Kenn: IV-14, p. 114
Archer, Peter: IV-17, p. 129
Archer, R.: IV-1, p. 46
Arluke, Arnold: III-2, p. 20
Armbruster, Bonnie: V-9, p. 200
Armbruster, Bonnie B. & Anderson: V-9, p. 201
Arnove, Robert F. & Graff: III-7, p. 30
Ashmore, Rhea A.: IV-12, p. 104
Ashton, Patrick J.: V-9, p. 202
Askov, Eunice N.: V-15, p. 230
Atwater, Tony: III-4, p. 26
Atwood, L. Erwin: III-2, p. 21
Au, Katherine Hu-Pei et al.: V-17, p. 233
Au, Kathryn Hu-pei: V-3, p. 179
Au, Rhoda: V-17, p. 234
Aubret, J. & Chartier: V-13d, p. 223
Ault, Melinda Jones et al.: VI-3, p. 240

B

Babu, A.J.G.: IV-19, p. 138
Bacharach, Nancy: V-9, p. 197
Bader, Lois A.: V-11, p. 207
Baird, William: IV-22, p. 158
Bakchine, Serge: VI-4, p. 245
Baker, Carolyn D. & Freebody: V-9, p. 198
Baker, Dale R.: IV-5, p. 69
Balajthy, Ernest: V-8, p. 195
Bald, John: V-2, p. 178
Ball, Donald W.: VI-3, p. 240
Balow, Irving H.: V-11, p. 209
Barker, Neva: V-5, p. 187
Barnes, Judy A. et al.: IV-9, p. 94
Barr, Rebecca: V-7, p. 192
Barr, Rebecca: V-10, p. 203
Barr, Rebecca & Dreeben: IV-13, p. 104
Barr, Rebecca & Sadow: V-6, p. 187
Barry, Thomas E.: III-2, p. 24
Bartels, Ute: IV-11, p. 99
Bashir, Anthony S.: VI-5, p. 247
Bataillard, M.: VI-4, p. 245
Baumann, James F.: V-9, p. 200
Baumann, James F.: IV-22, p. 170

Bausell, R. Barker: V-5, p. 185; VI-3, p. 240
Bean, Thomas W.: V-17, p. 234
Bean, Thomas W.: V-6, p. 191
Bean, Thomas W. et al.: IV-5, p. 69
Beck, Isabel: IV-6, p. 75
Becker, Samuel L.: III-1, p. 14
Beentjes, Johannes W.J.: III-1, p. 15
Beentjes, Johannes W.J. & Van Der Voort: IV-17, p. 130
Bell, Laura: IV-22, p. 173
Bell, Laura C.: IV-6, p. 75
Benezra, Esther & Douglas: VI-5, p. 247
Bening, Mary Ellen: V-13b, p. 219
Bensoussan, Marsha: IV-13, p. 107
Bentley, Diana: I, p. 2
Benton, Sidney E. & Jerrolds: II-2, p. 5
Bergeron, Suzanne: VI-5, p. 248
Berkman, Dave: III-12, p. 38
Bernstein, James M.: III-10, p. 37
Berthoud-Papandropoulou, Ioanna: IV-20, p. 144
Besner, Derek: IV-9, p. 89
Beveridge, Michael & Edmundson: IV-14, p. 119
Beverly, Sylvia: IV-22, p. 173
Bialozor, R.C.: V-11, p. 207
Bianco, Linda & McCormick: V-11, p. 210
Bieger, George R. & Glock: IV-4, p. 57
Biggs, Shirley A.: III-4, p. 25
Billingsley, Bonnie S. & Wildman: V-11, p. 206
Bingham, Adelaide Bates et al.: IV-22, p. 170
Biraimah, Karen: II-2, p. 5
Black, Alison et al.: IV-22, p. 172
Blanchard, Jay & Logan: IV-7, p. 75
Blythe, H. T. & Carter: II-1, p. 4
Boehme-Duerr, Karin: III-2, p. 23
Boersma, Frederic J.: V-13e, p. 225
Bogart, Leo & Tolley: III-5, p. 28
Bohlmeyer, Elaine Morton: V-6, p. 187
Borkowski, John G. et al.: IV-18, p. 135
Bosman, Anny M.T. & De Groot: IV-22, p. 171
Boudreault, Maurice et al.: VI-5, p. 248
Boutin, Pierette: VI-5, p. 248
Bowers, Patricia Greig et al.: IV-3, p. 53
Boyce, Glenna: IV-15, p. 125
Bradley, Lynette: IV-9, p. 90
Bradley, Virginia N.: IV-19, p. 137
Bradshaw, John L. & Bradshaw: IV-1, p. 47
Bradshaw, Judy A.: IV-1, p. 47
Brady, Susan: IV-14, p. 111
Brady, Susan et al.: IV-6, p. 75
Bramlett-Solomon, Sharon & Wilson: III-2, p. 16
Brannan, Julie R. & Williams: IV-7, p. 79
Bransford, John D.: V-15, p. 229
Braun, Carl et al.: V-13a, p. 216
Brause, Rita S.: V-16, p. 232
Brekke, Gerald & Chew: V-14, p. 226
Brenders, David A. & Robinson: III-2, p. 23
Breznitz, Zvia: IV-11, p. 101; IV-12, p. 104
Briggs, L.D.: IV-8, p. 80
Brinkerink-Carlier, Michele: IV-5, p. 69
Britton, Bruce K.: IV-5, p. 70
Broderick, William & Dennis-Rounds: V-11, p. 206
Bromley, Karen (D'Angelo) & Mahlios: IV-11, p. 100
Brooks, Larry W.: IV-5, p. 64
Brown, Ann: V-11, p. 208
Brown, Ann L.: IV-22, p. 166
Brown, Carol: V-3, p. 180
Brown, David L. & Briggs: IV-8, p. 80
Brown, Elga: IV-20, p. 144
Brown, Gordon D.A. & Watson: IV-9, p. 88
Brown, Natalie: III-5, p. 27
Brown, Ron: IV-7, p. 79
Brozo, William G.: II-3, p. 10; V-9, p. 201
Bruce, Bertram: III-13, p. 39
Brumback, Roger A.: V-13a, p. 217
Bruning, Roger H.: IV-5, p. 67, p. 68; IV-8, p. 81; IV-18, p. 134
Brutten, Sheila R.: IV-23, p. 175
Bryant, Peter: IV-9, p. 90
Bryson, Jr., Robert L.: III-2, p. 21
Bryson, Susan E.: IV-14, p. 109
Bryson, Susan E. & Werker: IV-14, p. 108
Buchek, Pamela C.: IV-5, p. 74
Buck, Margaret J. et al.: V-11, p. 212
Buckhalt, Joseph A.: VI-3, p. 239
Budin, Clay: VI-4, p. 242
Bunge, John: III-6, p. 29
Burgess, Curt: IV-9, p. 92
Buriel, Raymond & Cardoza: IV-15, p. 123
Burke, Charles: IV-15, p. 126
Burke, Joy Patricia et al.: V-6, p. 187
Burns, Jeanne M. & Collins: IV-20, p. 148
Burns, Jeanne M. & Richgels: IV-20, p. 147
Busch, Robert F.: II-3, p. 10
Bushell, Roger: V-11, p. 212
Busterna, John C.: III-10, p. 37
Buttery, Thomas J. & Reitzammer: IV-2, p. 51
Buttgieg, Mary Anne: IV-19, p. 139
Bwatwa, Yosiah: III-7, p. 32
Byrne, Brian: IV-4, p.60; IV-14, p. 113

C

Cadigan, Doris: V-4, p. 181
Cairney, Trevor H.: IV-13, p. 106
Calder, James E.: V-13e, p. 224
Calfee, Robert & Drum: V-2, p. 178
Calkins, Roderick: V-17, p. 233
Campbell, Bob: IV-7, p. 79
Campbell, Robin: IV-11, p. 100
Campbell, Ruth & Wright: VI-2, p. 238
Cannon, Hugh M. & Williams: III-12, p. 38

Caramazza, Alfonso et al.: IV-9, p. 92
Cardoza, Desdemona: IV-15, p. 123
Carnine, Douglas & Gersten; V-16, p. 232
Carpenter, Ray L.: III-14, p. 41
Carr, Martha: IV-18, p. 135
Carrell, Patricia L.: IV-8, p. 85
Carrick-Smith, Leslie: V-11, p. 213
Carrithers, Caroline: IV-21, p. 153
Carter, Beth Warren: IV-22, p. 167
Carter, Sylvia McCoy: II-1, p. 4
Carver, Ronald P.: V-6, p. 188
Casem, Celia B.: V-8, p. 196
Cassidy, Jack & Rickelman: II-4, p. 11
Castaneda, Sandra et al.: IV-5, p.64
Casteel, Mark A.: IV-9, p. 92
Catts, Hugh W.: IV-14, p. 114
Cazden, Courtney: V-10, p. 204
Chabe, Alexander M.: V-1, p. 177
Chan, Kin-Tong: IV-19, p. 137
Chan, Lorna K.S. & Cole: IV-22, p. 167
Chance, Larry L.: V-13c, p. 221
Chandler, Byron: VI-3, p. 240
Chang, Tsan-Kuo: III-2, p. 20
Chang, Ye-Ling & Watson: IV-20, p. 145
Chapman, James W. & Boersma: V-13e, p. 225
Chapman, L. John: IV-14, p. 118
Chartier, D.: V-13d, p. 223
Chastain, Garvin: IV-21, p. 152
Chastain, Garvin & Thurber: V-8, p. 193
Chen, Hsuan-Chih & Tsoi: IV-19, p. 139
Chen, Hsuan-Chih et al.: IV-19, p. 137
Cheung, Sau Man: IV-16, p. 127
Chew, Fiona: III-17, p. 44
Chew, Stephen L.: V-14, p. 226
Chiarello, Christine et al.: IV-1, p. 49, p. 50
Chizzick, Lynne: IV-7, p. 79
Choi, Hyeon Cheol & Becker: III-1, p. 14
Christ, William G.: III-2, p. 23
Christenson, Sandra L.: VI-3, p. 241
Clarihew, Anne: IV-5, p. 66
Clark, Elsie S.: V-15, p. 229
Clay, Judith A.: IV-13, p. 105
Cleland, Lynne Nelson: IV-3, p. 52
Clements, Douglas H. & McLoughlin: V-15, p. 227
Clogston, John: III-2, p. 17
Cochran, Kathryn F.: IV-3, p. 55
Cochran, Kathryn F. & Davis: IV-18, p. 133
Cochran, Samuel W.: IV-9, p. 94; V-6, p. 189
Cochran-Smith, Marilyn: IV-15, p. 124
Cohen, Allen: IV-1, p. 46
Cohen, Jeremy et al.: III-16, p. 43
Cohen, Libby: V-13d, p. 222
Cohen, Michael M.: IV-4, p. 60
Colburn, David W.: V-3, p. 180
Cole, Peter G.: IV-22, p. 167
Collard, M.: VI-4, p. 245
Collins, James: IV-8, p. 83
Collins, Martha: II-1, p. 3
Collins, Martha D.: IV-20, p. 148
Collis, Betty A.: V-13b, p. 218
Coltheart, Max: IV-20, p. 140
Coltheart, Veronika: IV-9, p. 91
Coltheart, Veronika et al.: IV-9, p. 89
Connor, Robert: V-6, p. 190
Connor, Robert T.: V-8, p. 193
Connors, Neila A.: V-1, p. 175
Constable, Hilary et al.: IV-7, p. 79
Conte, Richard & Humphreys: IV-11, p. 102
Cooknell, Tessa: IV-11, p. 104
Corkill, Alice J. et al.: IV-5, p. 67, p. 68
Corlett, Donna Jean: II-3, p. 9
Cote, Robert: VI-5, p. 248
Cotton, Eileen G. et al.: V-8, p. 196
Counts, Tim: III-15, p. 42
Court, Stephen: IV-21, p. 153
Cowen, Sara E.: iv-5, p. 61
Cowin, Elizabeth: IV-14, p. 114
Craig, Helen B. & Gordon: VI-2, p. 238
Craik, I.M.: IV-5, p. 72
Cranney, A. Garr: III-2, p. 15
Crimmins-Jeanes, Mary: V-7, p. 192
Crismore, Avon: IV-4, p. 57
Cross, David R. & Paris: IV-22, p. 166
Crossman, Deborah L. & Polich: IV-2, p. 51
Crowell, Doris C.: V-17, p. 233
Crummey, Lorraine: III-2, p. 15
Cumming, Geoff: IV-11, p. 103
Cunningham, James W.: V-16, p. 232
Cunningham, Patricia M.: IV-9, p. 93; V-5, p. 183
Cuningham, Thomas F. et al.: IV-7, p. 79

D

D'Avignon, Janice: VI-5, p. 247
Dahlem, William E.: IV-14, p. 122
Daines, Delva: IV-21, p. 150; V-9, p. 198
Daisey, Peggy et al.: II-3, p. 7
Daneman, Meredyth: VI-1, p. 235
Daniels, Roberta R. et al.: V-6, p. 189
Danielson, Wayne A.: III-1, p. 13
Dansereau, Donald F.: IV-5, p. 64
Darch, Craig & Eaves: IV-4, p. 59
Das, J.P.: IV-3, p. 54
Davelaar, Eileen: IV-9, p. 89
Davey, Beth: IV-5, p. 62; IV-14, p. 119
Davey, Beth: VI-2, p. 237
Davis, Charlotte E.: IV-22, p. 160
Davis, J. Kent: IV-18, p. 133
Davis, James N. et al.: IV-22, p. 169
Davis, John M.: IV-3, p. 56

Davis, Kathleen A. & Walls: IV-4, p. 59
Davis, Robin.: IV-22, p. 160
Dayton, C. Mitchell: IV-17, p. 130
De Groot, Annette M.B.: IV-22, p. 171
de la Mare, Michael: II-5, p. 11
Dean, Raymond S. et al.: IV-19, p. 139
Deane, Paul: III-3, p. 39
Dee-Lucas, Diana & Larkin: IV-23, p. 156
Deering, Rosemarie: II-3, p. 7
Deering, William M.: IV-1, p. 47
DeFord, Diane E.: IV-20, p. 143
DeFries, J.C.: IV-3, p. 54
Dennis, Maureen: VI-4, p. 246
Dennis-Rounds, Jan: V-11, p. 206
DeSanti, Roger: II-1, p. 3
DeSanti, Roger J.: V-13c, p. 221
Dickinson, David K.: IV-8, p. 84
Dickinson, David K. & Snow: IV-15, p. 124
Dickson, Thomas V.: III-14, p. 41
Diebold, Thomas J. & Waldron: VI-2, p. 237
Dobos, Jean: III-1, p. 13
Doiron, Ray & Shapiro: IV-15, p. 125
Donaldson, Gary W.: IV-3, p. 52
Dorman, Casey: VI-4, p. 243
Dorman, Casey et al.: VI-5, p. 247
Douglas, Virginia I.: VI-5, p. 247
Dowhower, Sarah L. & Speidel: V-5, p. 185
Dowhower, Sarah Lynn: IV-11, p. 101
Downer, Marjorie A.: V-5, p. 183
Downing, John: IV-21, p. 149
Dozier, David M., III-5, p. 28
Draheim, Marilyn E.: V-8, p. 194
Draper, Kelly D.: IV-15, p. 125
Dreeben, Robert: IV-13, p. 104
Dreeben, Robert & Barr: V-10, p. 203
Dreher, Mariam Jean: V-17, p. 234
Drum, Priscilla: V-2, p. 178
Drury, Colin G.: IV-19, p. 138
Duffy, Susan A.: IV-9, p. 91; IV-22, p. 156
Dupuis, Mary M.: II-6, p. 12
Durkin, Dolores: V-9, p. 196
Durst, Russel K.: I, p. 2
Durst, Russel K. & Marshall: I, p. 2
Dykman, Roscoe A.: IV-14, p. 120

E

Eason, Robert L.: IV-18, p. 133
Eaves, Ronald C.: IV-4, p. 59
Eber, A.M. et al.: VI-4, p. 245
Edmundson, Susan: IV-14, p. 119
Egeth, Howard E.: IV-9, p. 92
Ehri, Linnea C.: IV-20, p. 144
Ehri, Linnea C. & Wilce: IV-9, p. 90
Ehri, Linnea C. et al.: IV-9, p. 96
Ehrlich, Marie-France: IV-19, p. 136
Eldredge, J. Lloyd & Quinn: V-11, p. 205
Eller, Rebecca G. et al.: IV-20, p. 144
Elliott, Carlene: V-13a, p. 217
Elliott, Colin D.: IV-14, p. 110
Elliott, William L.: III-1, p. 13
Ellis, Andrew W.: IV-21, p. 149
Ellis, Andrew W. et al.; IV-1, p. 48
Enfield, Marion & Bean: V-6, p. 191
Englert, Carol Sue et al.: IV-22, p. 166
Entwisle, Doris R. et al.: V-4, p. 181
Entwistle, Judy: IV-17, p. 132
Epstein, Michael H.: VI-3, p. 240
Epstein, William: IV-22, p. 165
Estes, Thomas H.: V-4, p. 181
Evans, Barrie: V-11, p. 212
Evans, James R.: IV-1, p.50
Evans, Robert: V-13b, p. 220
Everett, George A.: III-10, p. 37
Everett, Stephen E.: III-2, p. 19
Everett, Stephen E. & Everett: III-10, p. 37

F

Fagan, William T.: III-7, p. 31; IV-21, p. 154
Falodun, Sola: IV-22, p. 168
Farnish, Anna Marie: V-6, p. 188
Farr, Roger: V-13d, p. 222
Farr, Roger et al.: II-1, p. 3
Faux, Robert: IV-22, p. 173
Feathers, Karen M. & White: IV-21, p. 154
Feeley, Joan T. & Wepner: V-15, p. 229
Feitelson, Dina: V-12, p. 214
Feldman, Naomi: V-11, p. 211
Feldmann, Shirley C.: IV-9, p. 95
Feldmann, Shirley C. & Fish: IV-22, p. 173
Feldt, Ronald C.: V-13b, p. 221
Feldt, Ronald C. & Witte: IV-14, p. 116
Felton, Rebecca H. & Wood: IV-14, p. 117
Fenn, Lawrence M. & Iwanicki: IV-15, p. 126
Ferraro, F. Richard: IV-4, p. 58; IV-9, p. 91
Ferrett, Robert T.: V-11, p. 209
Fico, Frederick et al.: III-2, p. 17; III-5, p. 27
Fillion, Bryant & Brause: V-16, p. 232
Fillmer, H. Thompson: III-2, p. 16
Fish, Marian C.: IV-22, p. 173
Fish, Marian C. & Feldmann: IV-9, p. 95
Fisher, Peter J.L.: I, p. 2
Fleisher, Lisa S.: IV-22, p. 172
Fleming, Kevin: IV-4, p. 58
Fletcher, Charles R.: IV-22, p. 163
Fletcher, Claire: V-11, p. 208
Fletcher, Donna & Abood: IV-19, p. 136
Fletcher, R.K.: IV-17, p. 129
Flippo, Rona F. & Hayes: II-3, p. 7
Floyd, Pamela & Carrell: IV-8, p. 85
Flynn, Jane M. & Deering: IV-1, p. 47
Fontes, Patricia J. & Archer: IV-17, p. 129
Ford, Karen L.: IV-17, p. 132

Forester, Nora: II-2, p. 5
Forrest-Pressley, D.L. & Gillies: IV-21, p. 151
Fowler, Carol A.: VI-2, p. 237
Fowler, William & Honeycutt: V-4, p. 182
Frager, Alan & Hahn: V-16, p. 232
Francis, Jean: V13b, p. 218
Franks, Jeffery J.: V-15, p. 229
Frazee, Charles: IV-5, p. 69
Freebody, Peter: IV-8, p. 84; IV-22, p. 161; V-9, p. 198
Freebody, Peter & Byrne: IV-4, p. 60
Freeman, Gerald G.: V-5, p. 186
Freeman, Paul: IV-22, p. 172
Freeman, Ruth & Freeman: V-5, p. 186
Freeman, Yvonne S.: V-12, p. 215
Frey, Karin s. & Ruble: IV-2, p. 51
Friend, Marilyn: V-11, p. 210
Froese, Victor: IV-8, p. 81
Frye, Sally: V-11, p. 208
Funk, Sandra G. et al.: V-13b, p. 218
Funnell, Elaine: VI-4, p. 243
Fusaro, Joseph A.: IV-19, p. 135
Fushimi, Yohji et al.: IV-22, p. 174

G

Gabarone, Samora et al.: III-7, p. 32
Gadzella, Bernadette M. et al.: V-13b, p. 220
Gaines, Carrie S.: IV-1, p. 45
Gallivan, Joanne: V-13b, p. 219
Gambrell, Linda B.: IV-22, p. 157
Gambrell, Linda B. et al.: IV-19, p. 137
Ganapole, Selina J.: IV-20, p. 145
Garber, Darrell H. & Kinney: IV-5, p. 61
Gardner, Michael K. et al.: IV-9, p. 89
Garner, Ruth & Gillingham: IV-22, p. 169
Garrison, Bruce: III-14, p. 41
Garzia, Ralph P. et al.: IV-1, p. 45
Gaskins, Irene W. et al.; V-5, p. 183
Gaskins, Robert W.: V-5, p. 183
Gast, David L.: VI-3, p. 240
Gauthier, Lane Roy: IV-3, p. 55; IV-22, p. 157
Gavin, Pam: V-11, p. 213
Gee, Thomas C. et al.: II-2, p. 5
Gentry, Betholyn F.: IV-14, p. 114
Gersten, Russell: V-16, p. 232
Gersten, Russell & Keating: V-5, p. 183
Ghatala, Elizabeth S.: IV-13, p. 107
Gibbs, Colin: IV-20, p. 143
Gillespie, Cindy & Rasinski: II-2, p. 7
Gillies, Laurie A.: IV-21, p. 151
Gillingham, Mark G.: IV-22, p. 169
Gillis, M.K. & Olson: V-13e, p. 224
Ginther, Dean W.: IV-9, p. 94; V-13b, p. 220
Givens, Alex: V-15, p. 228
Gjessing, Hans-Jorgen: IV-23, p. 174
Glenberg, Arthur M. & Epstein: IV-22, p. 165
Glock, Marvin D.: IV-4, p. 57
Glover, John A.: IV-5, p. 67, p. 68
Glover, John A. & Krug: IV-5, p. 65
Glynn, Shawn M.: IV-5, p. 70
Goetz, Elizabeth M.: V-3, p. 180
Goetz, Ernest T.: IV-10, p. 97
Goetz, Ernest et al.: V-9, p. 201
Gold, Joyce & Fleisher: IV-22, p. 172
Golden, Joanne M.: IV-10, p. 98
Goodacre, Elizabeth J. & Bentley: I, p. 2
Goodglass, Harold & Budin: VI-4, p. 242
Gordon, Belita: II-3, p. 10
Gordon, Christine J.: V-13a, p. 216
Gordon, Christopher J.: IV-21, p. 155
Gordon, Harold W.: VI-2, p. 238
Graff, Harvey J.: III-7, p. 30
Graham, Jr., John M. et al.: VI-5, p. 247
Grant, Jodi & Brown: V-3, p. 180
Graves, Anne W.: IV-22, p. 164
Graves, Michael F.: IV-5, p. 70
Graveson, Lucie & Standing: IV-7, p. 77
Gray, Jeffrey W.: IV-19, p. 139
Gray, Mary Ann: V-6, p. 191
Greabell, Leon C.: II-3, p. 10
Green, David et al.: IV-21, p. 153
Green, James A.: V-13b, p. 218
Green, Karen Reed: III-7, p. 30
Green, Len & Francis: V-13b, p. 218
Greene, Barbara A. IV-22, p. 160; V-13e, p. 225
Greenstein, Jonathan: IV-14, p. 122
Greer, Eunice A.: III-2, p. 15
Griffey, Jr., Quentin L. et al.: V-11, p. 211
Griffin, Cynthia C.: IV-5, p. 66; IV-22, p. 174
Griswold, Jr., William F. & Moore: III-5, p. 28
Grogan, Sarah C.: IV-14, p. 121
Groshong, Claudia Clark: IV-8, p. 84
Grube, Anette & Boehme-Duerr: II-2, p. 23
Grundei, Linda et al.: V-9, p. 202
Guihou, M-C.: IV-1, p. 47
Guillot, Gunther et al.: VI-4, p. 243
Gunderson, Lee & Shapiro: V-5, p. 184
Guri-Rozenblit, Sarah: IV-5, p. 62
Guthrie, John T.: IV-21, p. 149
Guthrie, John T.: III-5, p. 26

H

Haensly, Patricia A.: V-7, p. 192
Hahn, Amos: V-16, p. 232
Hajash, Donna J.: III-2, p. 18
Hall, A.D.: VI-1, p. 235
Hall, Ann Hays: V-2, p. 179
Hall, Dorothy P. & Cunningham: IV-9, p. 93
Hall, Nigel et al.: V-3, p. 180
Halpin, Gerald: V-13e, p. 225
Hamilton, Dorothy: V-5, p. 186
Hancock, Roger: V-2, p. 178

Hankins, Sarah Russell: III-10, p. 36
Hannon, Peter et al.: IV-16, p. 129
Hanson, Vicki L. & Fowler: VI-2, p. 237
Hardman, Patricia K. et al.: IV-13, p. 105
Hare, Victoria Chou et al.: IV-22, p. 171
Harper, Lawrence V. & Huie: IV-13, p. 106
Harris, Richard Jackson et al.: IV-22, p. 162
Harrison, Colin: IV-22, p. 168
Harrison, Elise: V-4, p. 181
Hatta, Takeshi: V-1, p. 176
Haugh, David: IV-4, p. 58
Havice, Michael: III-17, p. 44
Hayashi, Mari M. et al.: VI-4, p. 242
Hayes, Bernard L.: V-4, p. 182
Hayes, Christopher G.: V-8, p. 195
Hayes, Christopher G.: V-8, p. 193
Hayes, David A.: II-3, p. 7; IV-5, p. 69
Hayes, Edmund B.: IV-21, p. 152
Head, Martha H.: IV-8, p. 82
Healy, Alice F.: IV-5, p. 72; IV-7, p. 79
Heath, Alan: V-11, p. 213
Heath, Shirley Brice: IV-15, p. 123
Heath, Shirley Brice & Thomas: IV-20, p. 141
Heerman, Charles E.: II-3, p. 7
Heeter, Carrie: III-5, p. 27
Heeter, Carrie et al.: III-5, p. 27
Heineken, Jane: V-9, p. 199
Helfrich, Mary Anna: VI-2, p. 236
Henk, William A.: IV-5, p. 71
Henk, William A. & Holmes: IV-17, p. 131
Henning, Volker: III-2, p. 18
Hewison, Jenny: IV-15, p. 125; V-5, p. 185
Hidi, Suzanne & Baird: IV-22, p. 158
Hiebert, Elfrieda H.: IV-20, p. 141
Hiebert, Elfrieda H.: IV-22, p. 166
Hiebert, Elfrieda H. & Adams: IV-20, p. 145
Hildebrand, Myrene & Hoover: V-13e, p. 224
Hinchman, Kathleen: II-1, p. 4
Hirose, Takehiko & Hatta: V-1, p. 176
Hirshfield, George: V-13b, p. 220
Hjelmqvist, Erland: VI-1, p. 234
Hochhaus, Larry et al.: IV-11, p. 102
Hock, Howard S.: IV-9, p. 90
Hockly, R.: IV-1, p. 46
Hoffman, James V.: IV-20, p. 140
Holcomb, Phillip J.: IV-14, p. 120
Holdsworth, Pauline: IV-14, p. 122
Holligan, Christopher & Johnston: IV-14, p. 113
Hollingsworth, Paul M.: IV-8, p. 82; IV-21, p. 150; IV-22, p. 163
Holmes, Betty C.: IV-17, p. 131
Honeycutt, Kathryn: V-4, p. 182
Hoover, H.D.: V-13e, p. 224
Horton, Steven V. et al.: V-15, p. 228
Howard, Daniel J. & Barry: III-2, p. 24
Howard, Herbert H.: III-1, p. 12
Huber, Walter: VI-4, p. 243
Hughes, Carol: IV-6, p. 75
Huie, Karen S.: IV-13, p. 106
Hulme, Charles: IV-1, p. 45
Hulme, Charles & Snowling: IV-14, p. 109
Humphreys, Rita: IV-11, p. 102
Hunt, Anne M.: VI-2, p. 236
Hunt, Russell A.: IV-11, p. 103
Hunter, Barbara et al.: IV-4, p. 57
Hurley, Anne DesNoyers: VI-5, p. 247
Hyde, Arthur A. & Moore: V-10, p. 204
Hynd, Cynthia: V-8, p. 193
Hynd, George W. & Semrud-Clikeman: IV-1, p. 50
Hyönä, Jukka: IV-21, p. 156
Hyönä, Jukka et al.: IV-21, p. 155

I

Idol, Lorna: IV-14, p. 109; IV-22, p. 164
Ingle, Melanie J.: IV-20, p. 147
Inhoff, Albrecht Werner & Fleming: IV-4, p. 58
Irvin, Judith L. & Connors: V-1, p. 175
Irvin, Judith L. & Lynch-Brown: V-2, p. 177
Israelite, Neita Kay: VI-2, p. 236
Israelite, Neita Kay & Helfrich: VI-2, p. 236
Iwanicki, Edward F.: IV-15, p. 126
Iwasaki, Tetsuo: IV-22, p. 174

J

Jackson, Angela: IV-16, p. 129
Jackson, Nancy Ewald et al.: IV-3, p. 52
Jackson, Patricia: IV-17, p. 130
Jacobson, Michael G.: IV-22, p. 160
Jacobson, Thomas: III-17, p. 45
Jadav, Ameeta D.: IV-17, p. 131
James, Sharon L.: IV-8, p. 84
Jeffres, Leo W. et al.: III-1, p. 13
Jenkins, Joseph R. et al.: V-6, p. 190
Jerrolds, Bob: II-2, p. 5
Jiménez, Juan E. & Rumeau: IV-4, p. 56
Joels, Rosie Webb & Anderson: III-13, p. 40
Johns, Jerry L.: IV-13, p. 105
Johns, Jerry L.: III-3, p. 24
Johnson, C.K. & Johnson: IV-19, p. 135
Johnson, Carole Schulte: IV-22, p. 169
Johnson, George C.: III-1, p. 12
Johnson, Linda L.: IV-5, p. 65
Johnson, R.K.: IV-19, p. 135
Johnson, Roger A.: IV-15, p. 126
Johnson, Sammye & Christ: III-2, p. 23
Johnson, Sammye M.: III-2, p. 21
Johnson-Laird, P.N.: IV-22, p. 172
Johnston, Rhona S.: IV-14, p. 113
Johnston, Rhona S. et al.: IV-14, p. 111, p. 112
Jones, Franklin Ross: II-4, p. 10

Jongsma, Eugene A.: I, p. 2
Jongsma, Kathleen S.: I, p. 2
Jordan, Cathie: V-17, p. 233
Jordan, Nancy C.: IV-8, p. 81
Jorm, Anthony F.: IV-14, p. 115
Julien, Yves: VI-5, p. 248
Jungnitz, Greta: V-12, p. 215
Juola, James F. et al.: IV-4, p. 58
Justen III, Joseph E.: V-13e, p. 224

K

Kaestle, Carl F.: III-7, p. 29
Kaiser, Sherral et al.: V-11, p. 207
Kameenui, Edward J.: IV-5, p. 66; IV-22, p. 170
Kameenui, Edward J. & Griffin: IV-22, p. 174
Kamhi, Alan G. et al.: IV-14, p. 114
Kaminaga, Hiromi: IV-22, p. 174
Kanengiser, Nancy: IV-7, p. 79
Kang, T. Jin: IV-19, p. 138
Kangiser, Suzanne: IV-10, p. 97
Kapinus, Barbara A. et al.: IV-22, p. 157
Kardash, Carol Anne M. et al.: IV-22, p. 160
Karle, H.: IV-1, p. 46
Karlin, Andrea: IV-15, p. 126
Kasnic, Michael J.: V-6, p. 189
Kastler, Lesa A. et al.: IV-20, p. 140
Kasworm, Carol E. & Medina: III-7, p. 30
Kaufman, Nancy J. & Randlett: IV-21, p. 154
Kay, Janice: VI-4, p. 246
Keating, Corriene: IV-9, p. 89, p. 91
Keating, Thomas: V-5, p. 183
Kee, Daniel W.: IV-20, p. 147
Kellas, George et al.: IV-9, p. 91
Keller-Cohen, Deborah & Heineken: V-9, p. 199
Kender, Joseph P.: V-13a, p. 217
Kennedy, Alan & Murray: IV-1, p. 46; IV-14, p. 114
Kerns, Robert L.: III-16, p. 44
Kerr, Stephen T.: IV-19, p. 136
Kerwin, Mary Louise E.: IV-5, p. 64
Kilpatrick, Rosemary: V-1, p. 177
King, James R.: IV-8, p. 80
King, Tsang Wai: IV-22, p. 169
Kinney, Pam: IV-5, p. 61
Kinzer, Charles K.: IV-13, p. 107; V-15, p. 229
Kinzer, Charles K. et al.: IV-4, p. 58
Kirby, John R.: IV-22, p. 159
Kirby, John R. & Gordon: IV-21, p. 155
Kirby, John R. & Robinson: IV-14, p. 117
Kirsch, Irwin S. & Guthrie: III-5, p. 26
Kirsner, Kim: IV-7, p. 77
Kirsner, Kim & Schwartz: IV-1, p. 49
Kitz, William R.: III-7, p. 29
Kleinmann, Howard H.: V-15, p. 231
Kline, Elinor et al.: III-8, p. 33
Kloster, Aldona M. & Winne: IV-5, p. 67
Knafle, June D. et al.: V-9, p. 203
Knickerbocker, Joan L.: IV-2, p. 51
Knott, Gladys: V-7, p. 192
Knott, Tony & Moore: IV-11, p. 100
Kobus, D.A. et al.: IV-1, p. 47
Konopak, Bonnie C.: IV-9, p. 94
Konopak, Bonnie C. & Williams: IV-5, p. 63; V-6, p. 188
Konopak, Bonnie C. et al.: IV-8, p. 80
Koskinen, Patricia S.: IV-22, p. 157
Kowal, Sabine: IV-11, p. 99
Kowler, Eileen & Anton: IV-1, p. 46
Kramer, Andrew: IV-1, p. 45
Kroll, Mary A.: V-8, p. 196
Krueger, Lester E.: IV-5, p. 73
Krug, Damon: IV-5, p. 65, p. 67
Kruk, Richard S.: IV-19, p. 138
Kugelmass, Jack & Shandler: III-9, p. 35
Kutas, Marta: IV-1, p. 48

L

LaBuda, Michele C. & DeFries: IV-3, p. 54
Lacy, Stephen: III-10, p. 36
Lacy, Stephen: III-10, p. 37
Lafferty, Toby: IV-9, p. 89
Laine, Chester: II-1, p. 3
Lamarche, Sharron: V-11, p. 205
Lancy, David F. et al.: IV-15, p. 125
Langas, Elizabeth U.: V-8, p. 196
Lange, Dale L.: IV-22, p. 169
Lapan, Richard: IV-9, p. 89
Larkin, Jill H.: IV-23, p. 156
Larking, Lewis: V-5, p. 186
Larsen, Steen: IV-14, p. 123
LaSasso, Carol: VI-2, p. 235
LaSasso, Carol & Davey: VI-2, p. 237
Lasisi, M.J. et al.: IV-22, p. 168
Lau, Sing & Cheung: IV-16, p. 127
Lau, Tuen-yu: III-10, p. 37
Laudanna, Alessandro: IV-9, p. 92
Laxon, Veronica J.: IV-9, p. 89
Laxon, Veronica J. et al.: IV-9, p. 91
Lecours, Andre Roch et al.: VI-4, p. 242
Ledger, George W.: IV-20, p. 146
Lee, Jae-Won: III-1, p. 13
Lee, James F. & Musumeci: V-13b, p. 220
Lee-Sammons, Lynette: III-1, p. 14
LeFevre, Jo-Anne: IV-21, p. 151
Legge, Gordon E. et al.: IV-19, p. 136
Lehr, Susan: IV-10, p. 98
Leibhaber, Michael: IV-4, p. 58
Leinhardt, Gaea: V-11, p. 211
Leonard, William H.: IV-5, p. 61
Leslie, Lauren: V-13a, p. 216
Lester, Paul: III-2, p. 18
Leventhal, Gloria: IV-1, p. 48

Levin, Jack et al.: III-2, p. 20
Levy, Betty Ann & Kirsner: IV-7, p. 77
Lewandowski, L.: IV-1, p. 47
Lewis, Kay & Harrison: IV-22, p. 168
Ley, Terry C. et al.: IV-17, p. 131
Lhermitte, Francois: VI-4, p. 245
Lieberman, Allan D.: IV-13, p. 105
Lieberman, Steven: IV-1, p. 46
Lillas, Christine: IV-11, p. 99
Lindblad, Arnold H. & Johnson: IV-15, p. 126
List, Karen K.: III-2, p. 22
Litchfield, Margaret: IV-16, p. 128
Logan, John: IV-7, p. 75
Logan, Robert A. & Kerns: III-16, p. 44
Lomax, Richard G.: IV-8, p. 82
Long, Sarah J.: V-9, p. 202
Loofbourrow, Mary C.: IV-4, p. 58
Lopez, Miguel: IV-5, p. 64
Lovelace, Terry et al.: II-1, p. 3
Lovitt, Thomas C.: V-15, p. 228
Lovrich, Jr., Nicholas P.: III-1, p. 14
Lu, Zaiming: III-2, p. 24
Ludlam, Diana Eastburn: IV-1, p. 45
Ludlam, William M. & Ludlam: IV-1, p. 45
Luebker, Andrew: IV-19, p. 136
Luke, Allan: III-8, p. 33
Lundeberg, Mary A.: IV-22, p. 165
Luttbeg, Norman R.: III-15, p. 42
Lynch, Douglas J.: IV-22, p. 160
Lynch-Brown, Carol: V-2, p. 177

M

Mace, F. Charles: V-13a, p. 217
MacGinitie, Walter: IV-22, p. 161
MacGregor, S. Kim: V-15, p. 228
Mack, Robert L.: IV-22, p. 156
Maclay, Connie M. & Askov: V-15, p. 230
MacLean, Margaret & Chapman: IV-14, p. 118
Maclean, Morag et al.: IV-9, p. 90
Maclean, Rod: IV-14, p. 115
Madden, Nancy A.: V-6, p. 188
Mae, Reet: III-13, p. 39
Mahlios, Marc: IV-11, p. 100
Mallery, Anne L. et al.: II-6, p. 12
Mancus, Dianne S. & Prince: V-13e, p. 223
Manis, Franklin R.: IV-14, p. 118
Mann, Virginia: IV-6, p. 75
Mann, Virginia A. et al.: IV-14, p. 114; IV-20, p. 148
Marchant III, Horace G. et al.: V-13e, p. 225
Margolis, Howard: II-1, p. 4
Margolis, Howard & McCabe: V-13d, p. 222
Maria, Katherine & MacGinitie: IV-22, p. 161
Marmurek, Harvey H.C.: IV-7, p. 76
Marshall, James D.: I, p. 2
Marshall, James D. & Durst: I, p. 2
Marshall, Nancy: V-13d, p. 223
Martin, Michael A.: IV-8, p. 80
Martin, Sarah H.: IV-21, p. 152
Martin, Sarah H.: IV-8, p. 80
Martin, Shannon Rossi: III-10, p. 36
Martin, Suzanne M.: IV-22, p. 166
Marzola, Eileen S.: IV-22, p. 157
Mason, Jana M. & Au: V-3, p. 179
Mason, Laurie: III-16, p. 43
Massaro, Dominic W. et al.: IV-4, p. 60
Masson, Michael E.J.: IV-9, p. 93
Mastropieri, Margo A.: IV-9, p. 97
Mastropieri, Margo A. & Peters: IV-5, p. 68
Mastropieri, Margo A. & Scruggs: V-11, p. 209
Matlock, Barbara: V-6, p. 190
Matsuura, Nobukazu: IV-8, p. 85
Matthews, Russell: IV-14, p. 115
Mattingly, Ignatius G.: IV-9, p. 87
Mauer, Daria: IV-14, p. 114
Mauro, John B.: III-5, p. 27
Mavrogenes, Nancy A.: III-3, p. 24
May, Elizabeth: V-3, p. 180
McCabe, Patrick: V-13d, p. 222
McCabe, Patrick P. & Margolis: II-1, p. 4
McCann, Robert S. et al.: IV-9, p. 89
McCluskey, Dale: V-6, p. 189
McCombs, Maxwell E. et al.: III-5, p. 27
McCormick, Sandra: V-11, p. 210, p. 212
McCoy, Kathleen M.: IV-19, p. 139
McCurdy, Barry L.: VI-5, p. 246
McDaniel, Mark A. & Kerwin: IV-5, p. 64
McDevitt, Mike: III-2, p. 17
McEachern, William Ross: V-13c, p. 222
McEneaney, John E.: IV-5, p. 69
McFarland, C.K. & Thistlethwaite: III-9, p. 34
McGee, Lea M. et al.: IV-8, p. 82
McGee, Rob et al.: IV-14, p. 117; VI-5, p. 246
McGill-Franzen, Anne: IV-14, p. 108
McGill-Franzen, Anne: V-1, p. 176
McGinley, William: IV-8, p. 80; IV-21, p. 153
McGrew, Kevin S. & Pehl: V-13b, p. 219
McIlheney, Colin: V-1, p. 177
McKay, M.F. & Neale: IV-3, p. 54
McKeown, Gerry & Freebody: IV-8, p. 84
McKinney, Vickie: V-11, p. 207
McKoon, Gail & Ratcliff: IV-22, p. 163
McLaughlin, Elaine M.: IV-19, p. 137
McLaughlin, T.F.: V-11, p. 207
McLean, Anne: V-13a, p. 217
McLoone, Barbara B. et al.: IV-9, p. 97
McLoughlin, Caven S.: V-15, p. 227
McNamara, Timothy P. & Healy: IV-5, p. 72
McNaughton, Stuart: IV-11, p. 99
McNaughton, Stuart: IV-5, p. 74
McPherson, Carolyn & Rust: IV-18, p. 133
Meadows, Rita E. & Fillmer: III-2, p. 16
Meara, Paul: IV-21, p. 153
Medina, Rene A.: III-7, p. 30

Meeks, Jane Warren: II-4, p. 10
Mehler, Jacques: VI-4, p. 242
Mensink, David: IV-3, p. 54
Merrill, John C.: III-14, p. 41
Metz-Lutz, M.N.: VI-4, p. 245
Meyer, Bonnie J.F.: IV-22, p. 172
Meyer, Bonnie J.F.: IV-3, p. 52
Meyer, Linda A. et al.: III-2, p. 15
Meyer, Philip: III-17, p. 44
Meyer, Therese: IV-22, p. 162
Midkiff, Robert M.: V-6, p. 187
Mikulecky, Larry et al.: V-15, p. 229
Miller, Andy et al.: V-11, p. 212
Miller, David C.: IV-3, p. 52
Miller, Samuel D.: V-9, p. 197
Minowa, Shigeo: III-9, p. 35
Miraldi, Robert: III-11, p. 38
Moates, Danny R.: IV-22, p. 170
Mody-Desbareau, Amita: III-2, p. 20
Moffitt, Terrie: VI-5, p. 246
Mohler, Peggy: V-9, p. 202
Mommers, M.J.C.: IV-9, p. 95
Monaghan, E. Jennifer: III-8, p. 33
Montgomery, Louise F.: III-2, p. 21
Moody, S.: VI-4, p. 245
Moore, Barbara A. et al.: III-1, p. 12
Moore, David W.: III-8, p. 33
Moore, David W. & Wilson: IV-3, p. 53
Moore, Dennis W.: IV-11, p. 100
Moore, Donald R.: V-10, p. 204
Moore, Phillip J. & Kirby: IV-22, p. 159
Moore, Rebecca M.: IV-5, p. 61
Moore, Roy L.: III-5, p. 28
Moore, Sharon Arthur: III-8, p. 33
Moore, Timothy E. & Mae: III-13, p. 39
Moore, Walter J.: I, p. 2
Moores, Janet: V-3, p. 180
Morgan, Raymond F. et al.: II-4, p. 10
Morgan, Roger: V-11, p. 212
Morgan, Roger & Gavin: V-11, p. 213
Morris, Judith A. & Johns: III-3, p. 24
Morrow, Lesley Mandel: IV-20, p. 142; V-9, p. 197
Mosenthal, Peter: IV-23, p. 175
Moustafa, Margaret: V-12, p. 215
Mudre, Lynda Hamilton & McCormick: V-11, p. 212
Mulholland, Helen & Neville: IV-4, p. 60
Mullin, Paul A. & Egeth: IV-9, p. 92
Mundt, Heinrich: IV-11, p. 99
Murphy, Carolyn Colgin: IV-18, p. 134
Murphy, Lorna A. et al.: IV-14, p. 110
Murphy, Mary A.: IV-1, p. 45
Murray, Wayne S.: IV-1, p. 46; IV-14, p. 114
Musumeci, Diane: V-13b, p. 220
Mutanyatta, Johannes: III-7, p. 32
Mutava, Dominic M.: III-7, p. 32
Muter, Paul et al.: IV-19, p. 138
Muth, K. Denise et al.: IV-5, p. 70
Mutz, Diana: III-16, p. 43
Myers, Jerome L.: IV-5, p. 73

N

Nagel, Kathleen Carter: III-2, p. 16
Nass, Clifford: III-16, p. 43
Nathan, Ruth G.: IV-21, p. 150
Nation, Paul: V-9, p. 199
Neal, Kathy S.: IV-17, p. 131
Neale, M.D.: IV-3, p. 54
Negin, Gary A.: V-9, p. 199
Nelson, Robin: V-15, p. 228
Netchine, S. et al.: IV-1, p. 47
Neuman, Susan B.: IV-13, p. 105
Neville, Donald D.: IV-22, p. 160
Neville, Mary: IV-4, p. 60
Newell, George E. et al.: IV-10, p. 99
Newman, S. et al.: IV-1, p. 46
Newman, S.E. & Hall: VI-1, p. 235
Nicholson, Steven B.: IV-1, p. 45
Nicholson, Tom: II-5, p. 11
Nicholson, Tom et al.: IV-11, p. 99
Nickse, Ruth S. et al.: IV-5, p. 74
Niebauer, Jr., Walter E. et al.: III-10, p. 37
Niemi, Pekka: IV-21, p. 155, p. 156
Nimon, Maureen: III-13, p. 40
Niquette, Garland: IV-18, p. 134
Noice, Helga & Hock: IV-9, p. 90
Nolte, Ruth Yopp: V-17, p. 234
Nord, David Paul: III-9, p. 35
Norris, Janet A. & Bruning: IV-8, p. 81
Nuding, Sarah: IV-1, p. 50

O

O'Brien, David G.: IV-11, p. 102
O'Brien, David G.: II-2, p. 6
O'Brien, Edward J. & Myers: IV-5, p. 73
O'Connell, Daniel C. et al.: IV-11, p. 99
O'Donnell, Angela: IV-5, p. 64
O'Flahavan, John F.: IV-21, p. 153
O'Hear, Michael F. & Ashton: V-9, p. 202
O'Hear, Michael F. et al.: V-9, p. 201
O'Keefe, Garrett J. & Reid-Nash: III-1, p. 12
O'Shea, Dorothy J.: IV-22, p. 157
O'Shea, Lawrence J. et al.: IV-22, p. 157
O'Sullivan, Patrick J.: VI-3, p. 241
Ober, Beth A. & Shenaut: VI-4, p. 245
Oehlkers, William J.: II-3, p. 8
Okoh, J.D.: III-13, p. 40
Olasky, Marvin: III-2, p. 19
Ollila, Lloyd O.: V-13b, p. 218
Olson, David R.: IV-9, p. 87
Olson, David R. & Torrance: IV-22, p. 168

Olson, Gary M. et al.: IV-22, p. 156
Olson, Mary: II-2, p. 5
Olson, Mary W.: V-13e, p. 224
Onyehalu, A.S.: IV-22, p. 168
Orlando, Vincent P.: II-2, p. 6
Ormrod, Jeanne E. & Cochran: IV-3, p. 55
Osaka, Naoyuki: IV-1, p. 49
Osiobe, Ann E.: III-13, p. 40
Osiobe, Stephen A. et al.: III-13, p. 40

P

Page, Beryl: IV-16, p. 129
Palincsar, Annemarie & Brown: V-11, p. 208
Palincsar, Annemarie Sullivan et al.: IV-22, p. 166
Pallas, Aaron M.: V-4, p. 181
Palumbo, Kelly: V-11, p. 207
Pany, Darlene & McCoy: IV-19, p. 139
Pappas, Christine C.: IV-20, p. 144
Parente, Maria Alice: VI-4, p. 242
Paris, Scott G.: IV-22, p. 166
Pascarella, Ernest T.: V-9, p. 203
Patel, P.G. & Soper: IV-21, p. 150
Patton, James R.: VI-3, p. 240
Pavard, B.: IV-8, p. 85
Payne, Gregg A. et al.: III-5, p. 28
Payne, John-Allen & Quigley: VI-2, p. 238
Pearson, P. David: IV-4, p. 57; IV-22, p. 164
Pehl, Jeanmarie: V-13b, p. 219
Perfetti, Charles A. et al.: IV-6, p. 75; IV-22, p. 173
Perkins, Kyle: V-13e, p. 226
Perkins, Kyle & Brutten: IV-23, p. 175
Peters, Ellen E.: IV-5, p. 68
Peterson, Robert R.: IV-9, p. 92
Pherson, Valli E.: V-9, p. 201
Phillips, Linda M.: IV-21, p. 151
Phillips, Scott, IV-14, p. 123
Pickens, Judith & McNaughton: IV-5, p. 74
Pierce, John C. et al.: III-1, p. 14
Pillon, Bernard et al.: VI-4, p. 245
Piper, Terry & McEachern: V-13c, p. 222
Pitts, Sandra K. & Hirshfield: V-13b, p. 220
Pizante, Gary: III-2, p. 17
Polich, John: IV-2, p. 51
Polk, Kevin: IV-11, p. 102
Pollatsek, Alexander: IV-14, p. 110; VI-4, p. 244
Polloway, Carolyn H.: VI-3, p. 240
Polloway, Edward A. et al.: VI-3, p. 240
Porpodas, Costas D.: IV-5, p. 72
Porter, William C. & Stephens: III-3, p. 25
Posner, Michael I.: VI-4, p. 244
Potts, Judith: IV-1, p. 45
Powell, Jack V. et al.: V-6, p. 190
Powell, S.D.: V-15, p. 227
Prabha, Chandra et al.: III-6, p. 29
Prater, Doris L. & Terry: IV-5, p. 63
Pratt, Anne C. & Brady: IV-14, p. 111
Pressley, Michael: IV-4, p. 59
Pressley, Michael & Ghatala: IV-13, p. 107
Price, Vincent: IV-16, p. 126
Prince, Amber T.: V-13e, p. 223
Prior, Margot: IV-11, p. 103
Prior, Margot et al.: V-11, p. 208
Proctor, Willis: VI-3, p. 240
Pugh, A.K.: IV-1, p. 47
Puglisi, J. Thomas: IV-7, p. 77
Pumfrey, Peter D.: IV-16, p. 127
Purushothama, G.: IV-11, p. 103

Q

Quigley, Stephen: VI-2, p. 238
Quinn, Bill & Jadav: IV-17, p. 131
Quinn, D. William: V-11, p. 205

R

Rabinowitz, Mitchell: IV-22, p. 171
Radencich, Marguerite: V-9, p. 200
Raduege, Tracy A. & Schwantes: IV-22, p. 158
Ramsey, Richard N.: V-9, p. 201
Randlett, Alice L.: IV-21, p. 154
Rasinski, Timothy: II-2, p. 7
Rasinski, Timothy V.: IV-17, p. 132
Rasinski, Timothy V. & DeFord: IV-20, p. 143
Ratcliff, Roger: IV-22, p. 163
Ratner, Hilary Horn: IV-22, p. 165
Rayford, Lawrence: II-1, p. 3
Rayner, Keith & Duffy: IV-9, p. 91
Redd-Boyd, Teresa M.: IV-5, p. 70
Reder, Stephen & Green: III-7, p. 30
Reed, Keflyn X.: IV-18, p. 134
Regehr, Sonya M.: IV-14, p. 120
Reid, D. Kim: V-11, p. 205
Reid, Leonard N.: III-2, p. 23
Reid-Nash, Kathaleen: III-1, p. 12
Reinking, David: IV-19, p. 137; V-17, p. 234
Reinking, David & Wu: V-15, p. 227
Reinking, David et al.: IV-5, p. 69
Reiser, Robert A. et al.: IV-7, p. 76
Reitzammer, Ann F.: IV-2, p. 51
Rembold, Karen L.: IV-22, p. 170
Renkema, J.: IV-19, p. 138
Rennie, Barbara J.: V-13a, p. 216
Reutzel, D. Ray & Daines: V-9, p. 198
Reutzel, D. Ray & Hollingsworth: IV-8, p. 82; IV-22, p. 163
Reutzel, D. Ray et al.: IV-21, p. 150
Rex, Linda: V-14, p. 226
Reynolds, Ralph E. & Baker: IV-5, p. 69
Reynolds, Valarie A.: V-6, p. 189

Rhodes, Anne W.: V-8, p. 196
Rice, Duane: III-6, p. 29
Rice, G. Elizabeth et al.: IV-3, p. 52
Rice, Jo Mary: IV-22, p. 159
Rice, Marshall D. & Lu: III-2, p. 24
Richardson, James T.: III-2, p. 19
Richgels, Donald J.: IV-20, p. 147
Richstad, Jim: III-2, p. 21
Rickelman, Robert J.: II-4, p. 11
Riding, R.J. & Powell: V-15, p. 227
Riley, Sam G. & Selnow: III-9, p. 35
Risko, Victoria J.: IV-5, p. 67
Risko, Victoria J. & Feldman: V-11, p. 211
Ritchie, David et al.: IV-16, p. 126
Ritty, J. Michael: IV-1, p. 46
Roberts, Donald F.: IV-16, p. 126
Roberts, Teresa A.: IV-5, p. 71; IV-22, p. 162
Robinson, Gregory L.W.: IV-14, p. 117
Robinson, James D.: III-2, p. 23
Robinson, Richard: II-3, p. 8, p. 9
Robson, David: V-11, p. 212
Roderick, Juanita A. & Jackson: IV-17, p. 130
Rodgers, Kimberly: IV-22, p. 173
Rogers, Theresa: IV-22, p. 164
Rogers-Zegarra, Nancy: V-17, p. 234
Roller, Cathy M.: V-12, p. 216
Roman, G. & Pavard: IV-8, p. 85
Romani, Christina: IV-9, p. 92
Romero, Martha: IV-5, p. 64
Rosenberg, William L. & Elliott: III-1, p. 13
Roser, Nancy L.: I, p. 2; IV-20, p. 140
Rosow, La Vergne: III-7, p. 30
Ross, Elinor P. & Fletcher: IV-17, p. 128
Rossi, Jean Pierre & Ehrlich: IV-19, p. 136
Rossiter, John R.: III-5, p. 28
Rothkopf, E.Z.: IV-9, p. 89
Rowe, Deborah Wells: IV-20, p. 146
Royer, James M.: IV-22, p. 160; V-13e, p. 225
Rubenstein, Herbert et al.: V-13a, p. 217
Rubin, Andee: IV-19, p. 135
Rubin, Gary S.: IV-19, p. 136
Ruble, Diane N.: IV-2, p. 51
Rudyk, Barbara P.: V-8, p. 194
Rugg, Michael D.: IV-14, p. 111, p. 112
Rumeau, Maria A.: IV-4, p. 56
Rust, James O.: IV-18, p. 133
Ryan, Ellen Bouchard & Ledger: IV-20, p. 146
Ryder, Randall James & Slater: IV-9, p. 88
Rzoska, M. Anne: IV-11, p. 99

S

Sadoski, Mark: IV-5, p. 64
Sadoski, Mark et al.: IV-10, p. 97
Sadow, Marilyn W.: V-6, p. 187
Saint-John, Louise M. & White: IV-7, p. 78
Salwen, Michael: III-5, p. 27
Salwen, Michael B. & Garrison: III-14, p. 41
Samuels, Barbara G.: III-4, p. 25
Samuels, S. Jay: IV-9, p. 96
Samuels, S. Jay: IV-22, p. 169
Santos, Olga B.: IV-3, p. 54
Saracho, Olivia N. & Dayton: IV-17, p. 130
Sardarpoor-Bascom, Farzanek: IV-22, p. 162
Sasanuma, Sumiko: VI-4, p. 242
Scales, Alice M. & Biggs: III-4, p. 25
Scanlon, Donna M.: IV-4, p. 56
Scarborough, Hollis S.: IV-14, p. 121
Schaer, Barbara B.: IV-17, p. 131
Schallert, Diane Lemonnier: V-9, p. 201
Schanze, Donna L. et al.: V-3, p. 180
Schewe, Annette & Froese: IV-8, p. 81
Schieble, Karen Magnus: IV-22, p. 171
Schieffelin, Bambi B. & Cochran-Smith: IV-15, p. 124
Schlapp, Ursula & Underwood: IV-14, p. 115
Schmidt, Richard: IV-6, p. 75
Schoenheimer, Joyce: IV-14, p. 114
Schommer, Marlene: V-5, p. 183
Schooler, Caroline: III-1, p. 13
Schreuder, Robert: IV-7, p. 78
Schultz-Brooks, Terri: III-2, p. 20
Schunk, Dale H. & Rice: IV-22, p. 159
Schwanenflugel, Paula J. & Stowe: IV-5, p. 71
Schwantes, Frederick M.: IV-22, p. 158
Schwartz, Neil H.: IV-19, p. 139
Schwartz, Steven: IV-1, p. 49
Schweigert, Wendy A. & Moates: IV-22, p. 170
Scott, Sherry B.: IV-5, p. 70
Scott, Tana: IV-14, p. 111, p. 112
Scruggs, Thomas E.: IV-9, p. 97; V-11, p. 209
Searls, Evelyn F. & Neville: IV-22, p. 160
Selnow, Gary: III-9, p. 35
Selsky, Deborah: III-4, p. 25
Semrud-Clikeman, Margaret: IV-1, p. 50
Senehi, Jessica: IV-1, p. 49, p. 50
Severn, Jessica J.H.: III-5, p. 28
Shaffer, Teresa: V-10, p. 204
Shake, Mary: V-11, p. 205
Shanahan, Timothy: IV-8, p. 80
Shandler, Jeffrey: III-9, p. 35
Shannon, Patrick: II-1, p. 2
Shannon, Patrick et al.: IV-22, p. 170
Shapiro, Edward S. & McCurdy: VI-5, p. 246
Shapiro, Jon: IV-15, p. 125; V-5, p. 184
Share, David L. et al.: IV-14, p. 115
Shaughnessy, Michael F. & Evans: V-13b, p. 220
Shaver, Judy: II-3, p. 9
Shearer, Janette: V-3, p. 180
Shell, Duane F. et al.: IV-18, p. 134
Shenaut, Gregory K.: VI-4, p. 245
Sherer, Michael: III-2, p. 22
Sherwood, Robert D.: IV-4, p. 58
Sherwood, Robert D. et al.: V-15, p. 229

Shoemaker, Pamela J. et al.: III-1, p. 13
Siddiqi, Mohammed A.: III-2, p. 20
Siegel, Linda S.: IV-3, p. 52
Sieroff, Eric et al.: VI-4, p. 244
Silbert, Annette: VI-5, p. 247
Silva, Phil A.: IV-14, p. 117
Simensen, Aud Marit: V-9, p. 198
Simmons, Deborah C. et al.: IV-5, p. 66
Simonsen, Stephen: V-17, p. 234
Simpson, Greg B.: IV-9, p. 91
Simpson, Greg B. et al.: IV-9, p. 92
Simpson, Lorraine & Byrne: IV-14, p. 113
Simpson, Michele L.: V-9, p. 201
Simpson, Michele L. & Hynd: V-8, p. 193
Simpson, Michele L. et al.: V-8, p. 193
Simpson, Robert G. & Halpin: V-13e, p. 225
Sinatra, Richard: IV-3, p. 53
Sinclair, Anne & Berthoud-Papandropoulou: IV-20, p. 144
Sindelar, Paul T.: IV-22, p. 157
Singer, Harry: IV-9, p. 97
Singer, Harry: IV-5, p. 69
Singer, Harry et al.: V-11, p. 209; V-17, p. 234
Singh, Judy: VI-3, p. 239
Singh, Judy: VI-3, p. 240, p. 241
Singh, Nirbhay N. & Singh: VI-3, p. 240, p. 241
Sippola, Arne E.: V-5, p. 184
Sisson, Julia R.: V-8, p. 196
Slater, Wayne H.: IV-9, p. 88
Slater, Wayne H. et al.: IV-5, p. 70
Slavin, Robert E.: V-6, p. 188
Slocum, Timothy A.: V-6, p. 190
Smith, Brigid: V-6, p. 191
Smith, Edward J. & Hajash: III-2, p. 18
Smith, Helen K.: I, p. 2
Smith, Kim A.: III-15, p. 42, p. 43
Smith, Laura J.: V-8, p. 196
Smith, Lynn C.: II-3, p. 8
Smith, Patricia L. & Friend: V-11, p. 210
Smith, Ron F. et al.: III-2, p. 18
Smith, Theresa L. & Eason: IV-18, p. 133
Smith-Burke, M. Trika: II-1, p. 3
Snart, Fern et al.: IV-3, p. 54
Sneed, Don: III-2, p. 18
Snow, Catherine E.: IV-15, p. 124
Snowling, Maggie: IV-14, p. 109
Snowling, Maggie et al.: IV-14, p. 109
Soderland, Joann: IV-14, p. 119
Soffin, Stan: III-5, p. 27
Sokol, Kirstin R.: IV-22, p. 173
Soley, Lawrence C. & Reid: III-2, p. 23
Solman, Robert T.: IV-7, p. 78
Son, Jinok: III-5, p. 27
Soper, Henry V.: IV-21, p. 150
Sorter, Jack: IV-5, p. 69
Soter, Anna: IV-21, p. 153
Soulier, Marina: IV-1, p. 49
Spanos, Tom: IV-11, p. 103
Speece, Deborah L.: IV-14, p. 116
Speicher, Ann Marie: IV-5, p. 74
Speidel, Gisela E.: V-5, p. 185; V-17, p. 233
Spencer, Devi & Sadoski: IV-5, p. 64
Spivey, Nancy Nelson & King: IV-8, p. 80
Spratt, Jennifer E.: IV-15, p. 124
Spring, Carl & Davis: IV-3, p. 56
Spurlin, Joni E. et al.: IV-5, p. 64
Stafford, Carolyn: IV-14, p. 109
Stahl, Norman: V-8, p. 193
Stahl, Norman A. et al.: II-3, p. 10; V-9, p. 201
Stahl, Steven A. et al.: IV-22, p. 160
Standing, Lionel: IV-7, p. 77
Stanley, Cynthia: III-5, p. 27
Stanovich, Keith E.: IV-14, p. 112
Stanovich, Keith E. et al.: IV-21, p. 150
Stark, Rachel E.: VI-5, p. 247
Steffy, Richard: IV-3, p. 53
Steiner, Linda: III-2, p. 16
Stephens, Bonnie: III-13, p. 39
Stephens, Flint: III-3, p. 25
Stevens, Rita: IV-13, p. 106
Stevens, Robert J. et al.: V-6, p. 188
Stewart, Roger A. & O'Brien: II-2, p. 6
Stewart, Sharon R.: IV-22, p. 166
Sticht, Thomas G.: III-7, p. 29
Stieglitz, Ezra L. & Oehlkers: II-3, p. 8
Stiller, Ulrike: VI-4, p. 243
Stolzberg, Mark E. et al.: IV-1, p. 46
Stovall, James Glen: III-2, p. 17
Stowe, Randall W.: IV-5, p. 71
Straw, Stanley B. & Rudyk: V-8, p. 194
Streitmatter, Rodger: III-2, p. 17
Stroebel, Sandra S. & Evans: IV-1, p. 50
Stuart, Morag & Coltheart: IV-20, p. 140
Stuart-Hamilton, Ian: IV-20, p. 146
Stuetzel, Helen: V-11, p. 205
Sturner, Raymond A.: V-13b, p. 218
Sturr, J.F.: IV-1, p. 47
Subervi-Velez, Federico A.: III-2, p. 21
Sumra, Suleman & Bwatwa: III-7, p. 32
Suszynski, Karen: IV-10, p. 99
Suzuki, Katsuaki: IV-7, p. 76
Swafford, Jeanne: V-7, p. 192
Swan, Susan & Symington: IV-4, p. 57
Swanson, Beverly B.: IV-14, p. 119
Swanson, H. Lee: IV-14, p. 116
Sweetland, Joann J. et al.: IV-13, p. 107
Swinson, Jeremy: V-11, p. 214
Swoope, Karen F. & Johnson: IV-22, p. 169
Sylla, Cheickna et al.: IV-19, p. 138
Symington, David: IV-4, p. 57
Szeszulski, Patricia A. & Manis: IV-14, p. 118

T

Tardif, Twila & Craik: IV-5, p. 72
Tate, Ellen: IV-3, p. 53

Taylor, Brenda B.: IV-9, p. 96
Taylor, JoAnn: IV-14, p. 121
Teale, William H.: IV-20, p. 143
Temple, Christine M.: IV-14, p. 111; VI-4, p. 244
Terestyeni, Tamas: III-7, p. 31
Terry, C. Ann: IV-5, p. 63
Tharp, Roland G.: V-17, p. 233
Thistlethwaite, Robert L.: III-9, p. 34
Thivierge, Jacques: VI-5, p. 248
Thomas, Charlene: IV-20, p. 141
Thompson, Laura A.: IV-4, p. 60
Thorn, Frank: VI-2, p. 236
Thorn, Sondra & Thorn: VI-2, p. 236
Thorpe, Dina: IV-16, p. 128
Thurber, Steven: V-8, p. 193
Thurlow, Martha L.: VI-3, p. 241
Tierney, Robert J. & McGinley: IV-8, p. 80
Tierney, Robert J. et al.: IV-21, p. 153
Tobin, Paula: IV-20, p. 148
Todd, Dianne & Cohen: V-13d, p. 222
Tolley, B. Stuart: III-5, p. 28
Tomlin, Judy G.: VI-3, p. 239
Tommola, Jorma: IV-9, p. 93
Topping, Keith: IV-14, p. 121
Torgesen, Joseph K.: IV-14, p. 122; V-15, p. 231
Torgesen, Joseph K. et al.: IV-14, p. 122
Torrance, Nancy: IV-22, p. 168
Torrance, Nancy & Olson: IV-9, p. 87
Townsend, Michael A.R. & Clarihew: IV-5, p. 66
Trast, Scott: IV-4, p. 58
Treiman, Rebecca & Zukowski: IV-9, p. 95
Tsoi, Kam-Cheong: IV-19, p. 137, p. 139
Tulley, Michael A.: II-1, p. 3
Tumlin, Sherlyn-Ann: III-2, p. 18
Tunnell, Michael O. et al.: V-13e, p. 224
Turk, Judy VanSlyke et al.: III-2, p. 21
Turnure, James E. IV-4, p. 59
Turrittin, Jane: III-7, p. 33
Tyler, Stephen & Elliott: IV-14, p. 110
Tyre, Colin & Young: V-11, p. 214

U

Ulatowska, Hanna K.: VI-4, p. 242
Underwood, Geoffrey: IV-14, p. 115; IV-21, p. 155
Underwood, Geoffrey et al.: IV-21, p. 156

V

Vala-Rossi, Marilyn: IV-21, p. 150
Valtin, Renate: IV-9, p. 87
Van Bramer, Joan: IV-3, p. 55
van Dam, Gerrit & Brinkerink-Carlier: IV-5, p. 69
van de Water, Donna A.: IV-11, p. 99
van der Heijden, A.H.C.: IV-7, p. 78
van der Velde, Frank et al.: IV-7, p. 78
Van der Voort, Tom H.A.: IV-17, p. 130
van Driel, Barend & Richardson: III-2, p. 19
Van Petten, Cyma & Kutas: IV-1, p. 48
van Wagtendonk, Bente: IV-14, p. 109
Vellutino, Frank R. & Scanlon: IV-4, p. 56
Vickery, Karen S. et al.: V-6, p. 189
Vincent, Denis et al.: II-5, p. 11
Vinograd-Bausell, Carole R. & Bausell: V-5, p. 185
Vinograd-Bausell, Carole R. et al.: VI-3, p. 240
Vipond, Douglas et al.: IV-11, p. 103
Viswanath, Kasisomayajula: III-16, p. 43
Vosniadou, Stella et al.: IV-2, p. 164

W

Wadsworth, J.F.: IV-1, p. 46
Wagner, Daniel A. & Spratt: IV-15, p. 124
Wagner, Richard K.: IV-9, p. 90
Waldron, Manjula B.: VI-2, p. 237
Walker, James R.: III-1, p. 14
Walker, Peter: IV-7, p. 76
Wallace, Dee: II-6, p. 12
Walls, Richard T.: IV-4, p. 59
Walters, Joel & Wolf: IV-8, p. 86
Walton, Ruth: IV-4, p. 59
Walzer, Stanley: VI-5, p. 247
Wangberg, Elaine G.: V-15, p. 230
Warr-Leeper, Genese A.: V-11, p. 212
Warren-Leubecker, Amye & Carter: IV-22, p. 167
Wassenberg, Karen: IV-14, p. 109
Watson, Alan J.: IV-8, p. 83
Watson, Dorothy J.: IV-20, p. 145
Watson, Frances L.: IV-9, p. 88
Weaver, Dera: V-8, p. 193
Webster, Raymond E.: V-13e, p. 224
Wedman, Judy M. & Robinson: II-3, p. 8, p. 9
Wehying, Robert S.: IV-18, p. 135
Weinberg, Warren A. et al.: V-13a, p. 217
Weingart, Ruth: IV-10, p. 99
Weintraub, Sam et al.: I, p. 2
Weissberg, Robert: V-5, p. 182
Well, Arnold D.: IV-14, p. 110
Wells, Gordon: IV-20, p. 140
Wepner, Shelley B.: V-15, p. 229
Werker, Janet F.: IV-14, p. 108
Werker, Janet F. et al.: IV-14, p. 109
Wescott, Alice Legenza: V-9, p. 203
West, Richard F.: IV-21, p. 150
Wharton, William P.: IV-5, p. 63
Wheeler, Lynwood C.: IV-11, p. 103
Wheldall, Kevin & Entwistle: IV-17, p. 132
White, C. Stephen: V-7, p. 192
White, Jane H.: IV-21, p. 154
White, Michael A.: IV-7, p. 78

White, William F. & Stevens: IV-13, p. 106
White, William F. et al.: IV-15, p. 126
Whitney, Paul: IV-21, p. 149
Whitt, Jeanne: V-9, p. 202
Whyte, Jean et al.: V-1, p. 177
Wiesendanger, Katherine D. & Bader: V-11, p. 207
Wilce, Lee S.: IV-9, p. 90, p. 96
Wildman, Terry M.: V-11, p. 206
Wilhite, Stephen C.: IV-5, p. 74; IV-22, p. 162
Wilke, Jurgen: III-9, p. 34
Williams, David L.: III-12, p. 38
Williams, Eric: IV-11, p. 102
Williams, Joanna P.: V-5, p. 183
Williams, Mary C.: IV-7, p. 79
Williams, Nancy L.: IV-5, p. 63; V-6, p. 188
Williams, Sheila: IV-14, p. 117; VI-5, p. 246
Williams, Susan: V-3, p. 180
Williamson, J. David: V-13b, p. 220
Williamson, Naja: IV-7, p. 76
Willich, Yve et al.: IV-11, p. 103
Willitts, Rebecca L.: IV-7, p. 79
Willson, Victor L.: IV-23, p. 174
Wilson, Barry J.: IV-3, p. 53
Wilson, Lyn: II-5, p. 11
Wilson, Rebecca: IV-20, p. 148
Wilson, Vanessa: III-2, p. 16
Winglee, Marianne: III-5, p. 26
Winne, Philip H.: IV-5, p. 67
Winograd, Peter & Niquette: IV-18, p. 138
Winter, Sam: V-11, p. 214
Wise, Beth & Shaver: II-3, p. 9
Wisenbaker, Joseph: V-6, p. 190
Wishart, Elizabeth: V-6, p. 189
Witte, Kenneth L.: IV-14, p. 116
Wodinsky, Marilyn & Nation: V-9, p. 199
Wolery, Mark: VI-3, p. 240
Wolf, Yuval: IV-8, p. 86
Wolfe, Rosemary Fanti: V-8, p. 195
Wong, Bernice Y.L. & Wong: IV-14, p. 120
Wong, Roderick: IV-14, p. 120
Wood, Eileen et al.: IV-4, p. 59
Wood, Frank B.: IV-14, p. 117
Wood, Thomas A. et al.: VI-3, p. 239
Woodward, Arthur: III-8, p. 34
Woodward, Arthur & Nagel: III-2, p. 16
Worden, Patricia E. et al.: IV-20, p. 147
Worthington III, George B. & Bening: V-13b, p. 219
Wright, A. & Anderson: V-15, p. 231
Wright, Helen: VI-2, p. 238
Wright, Jone P.: IV-17, p. 131
Wu, Jen-Huey: V-15, p. 227

Y

Yamada, Jun et al.: IV-8, p. 85
Yanase, Yosuke: IV-8, p. 85
Yarborough, Betty et al.: V-4, p. 181
Yopp, Hallie Kay: V-17, p. 234
Yore, Larry D. et al.: V-13b, p. 218
Young, Andrew W.: IV-1, p. 48
Young, Peter: V-11, p. 214
Youngman, Frank: III-7, p. 32
Ysseldyke, James E. et al.: VI-3, p. 241
Yu, Jinglu: III-10, p. 37
Yule, Valerie: IV-8, p. 86
Yussen, Steven R.: IV-22, p. 170

Z

Zabrucky, Karen & Ratner: IV-22, p. 165
Zaharopoulos, Thimios: III-2, p. 22
Zecker, Steven G. & Zinner: IV-14, p. 115
Zhang, Jian: IV-11, p. 103
Zigmond, Naomi: V-11, p. 211
Zill, Nicholas & Winglee: III-5, p. 26
Zinner, Tanya E.: IV-14, p. 115
Zino, T.C.: IV-1, p. 47
Zucker, Stanley F.: IV-9, p. 97
Zukowski, Andrea: IV-9, p. 95